Forte 4 User Manual

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Brainspawn Forte 3

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Table of Contents

Foreword 0

Part I Brainspawn Software License Agreement 9

Part II Introduction 11

1 What is Forte? 11
2 System Requirements 13
3 What's new in Forte 4 13
Rack File Compatibility with Forte 3 17
4 Where to go for Help 18

Part III Installation and First Time Setup 18

1 Installer 18
2 Enabling Forte with a Registration User Name and License Key 19
3 First Time Setup 20

Part IV Tutorials 23

1 Tutorial #1: Adding a Plugin and Creating Scenes 23
2 Tutorial #2: Audio Routing and Mixing 25
3 Tutorial #3: MIDI Routing and Filtering on a Plugin 26
4 Tutorial #4: Global MIDI Automation 28
5 Tutorial #5: Preparing a Rack for Performance 29

Part V MIDI and Audio Signal Flow 30

Part VI User Interface Overview 31

1 Control Module 31
2 Output Bus Modules 31
3 Instrument Modules 32
4 Plugin Consoles 33
5 SceneView 33
6 Rack Editor 33

Part VII Using Plugins 33

1 Plugin Manager 33
VST Scan Folders 35
VST Plugins List 36
Using JBridge 37
Ignored VST Files List 38
VST Crash List 39

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2 Plugin Console ... 39
MIDI Program Map ... 44
MIDI Routing ... 45
Scene Commands ... 46
3 Audio Input and Mix ... 47
4 Insert Effects ... 48
Insert Manager ... 50

Part VIII Plugin MIDI Filtering and Automation 51

1 Key Range and Transpose ... 54
2 MIDI Controller Mapping ... 55
3 Merging MIDI Input Filters ... 57
4 Using MIDI Out from Plugins ... 58

Part IX Scenes, Songs, and Setlists 58

1 Basic Scene Operations: Create/Update/Rename/Use/Delete ... 59
2 Songs and Setlists ... 60
3 What's in a Scene? ... 61
4 Different Ways to Use Scenes, Songs, and Sets ... 62
5 Transpose ... 64
6 Managing Scenes ... 64
7 Import Scenes and Songs ... 64
8 Rehearsal Mode ... 66

Part X SceneView 66

1 Image Cues and Cue Notes ... 69
2 Set Browser ... 70
3 Styling Scene View 2 with Stylesheets ... 71

Part XI Rack Editor 73

1 Rack Editor ... 73
2 Setlist and Scenes Editor ... 75
3 Global MIDI Automation ... 78

Part XII Maintaining Rack FIles 80

1 Creating New Racks ... 80
2 Loading and Saving Racks ... 80
3 Copying and Replacing Instruments and Buses ... 81
Copying Intruments ... 81
Copying Buses ... 82
4 Trimming Racks ... 82
5 Adapting to Hardware Changes ... 83
Hardware Profiles ... 83

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MIDI Port Renaming ... 85

Part XIII Control Surfaces and Automation 85

1 Configuring Control Surfaces for Use in Forte ... 85
2 Control Surface Definitions and Editor ... 86
3 Mackie Control Compatible Devices ... 88
4 Frontier Design TranzPort ... 88
5 Behringer BCF2000 and Compatible Devices ... 89

Part XIV Performance Features 91

1 Autostart ... 91
2 MIDI Panic ... 92

Part XV EHCo External MIDI Hardware Controller 92

1 Enabling EHCo with a Registration User Name and License Key ... 94
2 ECHo User Interface ... 95
3 MIDI Configuration ... 96
4 External Device Emulation ... 96
5 Sending MIDI On Scene Change ... 97
6 MIDI Closed Loop Test ... 99

Part XVI Confidence Building Tools 100

1 Stress Test ... 100
2 Diagnostics Display ... 101
3 Memory Information ... 102
4 MIDI Closed Loop Test (with EHCo only) ... 103
5 Configuration Manifests ... 103
6 Automatic Backup ... 103

Part XVII Configuring Options and Preferences 103

1 Edit Shortcuts ... 106
2 Skins ... 107
3 Audio Options ... 108
4 Plugin Options ... 110
5 SceneView Options ... 111
6 Scene Options ... 112
7 MIDI Input and Output Ports ... 113
MIDI Configuration ... 114
8 Control Surfaces ... 115
9 Copy Options ... 115

Part XVIII Troubleshooting 115

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1 Plugin Compatibility Fixes (DeviceCompatibility.xml) ... 120
2 Safe Mode ... 121
3 Moving From 32 bit to 64 bit Forte (VST Plugins) ... 122
4 OPTIONS.INI File ... 122
5 Log File ... 124

Part XIX Menu Reference 125

Part XX Keyboard Shortcuts 127

Part XXI Technology Acknowledgements 129

Index 0

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2 Introduction

2.1 What is Forte?

Let's Start at the Beginning

Forte is a "VST plugin host" application for Windows PCs. VSTs are software packages that synthesize sounds. There are thousands of VSTs in existence and more each day. For a good database of VST plugins, see kvraudio.com[80]. However, VSTs are "plugins", and are not useful unless you add them to another software application called a "host". Many hosts exist today including Cakewalk Sonar, Reaper, Cubase, and Forte.

Forte was conceived in 2001 for the simple reason that there existed no VST host that made it easy to play music. There are many VST hosts around, but all of them are designed as studio tools to enable music production. They have tracks, and timelines, and tempos and key change markers, and MIDI and audio editing. These are all great (and we love these programs) but they are "Swiss Army Knives" with a million gadgets. Getting to the point of actually being able to play music on a MIDI keyboard through a VST plugin is a many-step process with these tools. What we wanted when we started Forte was a single purpose tool: something to just play VSTs.

Forte exists to turn the experience of playing VSTs into something as simple as sitting down at a piano (and just as fun.) Forte has existed on the market for 9 years now (!) Our emphasis is on stability for performance, not trying to get to the next major revision out as fast as possible.

To get started with Forte if you don't have any VST plugins, try downloading the free mda Piano at http://mda.smartelectronix.com/synths.htm

Simplicity

As mentioned above, Forte is a single tasker. All of its features are in support of playing VSTs. There's no recording, playback, sequencing, timelines, tracks or any of that. There are, however, some unique features for playing live.

Forte can be configured to automatically start when you boot Windows. It can also be configured to automatically load a rack of VSTs, meaning that you can plug in your PC, hook up MIDI and audio cables, and when you turn it on, it will boot automatically and be

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ready to play your first song.

Herding VST Plugins: Scenes

One of the key features of Forte is called a "Scene". Because Forte can host many VST plugins at once, it becomes a complex task to get them all configured the way you want them. Scenes make it easy to take a "snapshot" of your entire "rack" of VST plugins in their current state and store it for recall. Be creating several scenes, you can the switch through different configurations of plugins very quickly. Scenes can be organized into Songs and Setlists, making it easy to use scenes as building blocks for performance sets. For example a song might require a grand piano and an organ for the first half and an electric piano and a clavinet for the second half. Add two plugins and configure them for the piano/organ, create a scene to preserve that setting, and then create another scene with the plugins reconfigured for the second half. Name them appropriately and then you can easily switch in the middle of the song. In fact, you can even get Forte to listen to a specific MIDI event, and advance to the correct scene automatically! Imagine playing the 1st half of the song, stepping on a pedal to advance to the next scene, and continuing to play through the second half.

Now imagine that with about one hundred scenes. It works. Professional musicians have built big rigs with a dozen VSTs and many scenes, and they play through that set every night.

Stability

Bringing a computer on stage seems like high-risk behavior but it is the way of the future. Many musicians are doing it now and more all the time. If you choose to use VSTs for performance, wouldn't it be nice to have some tools built into the host to help you become comfortable with your rig's reliability? Forte has two major features designed to help you ring out a performance system. First, it has a "stress test" that simulates you playing on stage. If you load your rack of VST plugins into Forte and start the stress test, it will jam huge amounts of MIDI down the plugins' throats while thrashing between scenes. The intensity levels are adjustable, but the point is that its doing what you would be doing on stage but much more aggressively. Its trying to punish the VSTs and see if they break. Not all VSTs are up to the task, so its good to know up front!

Also, if you find a particular rack of VSTs to be reliable, you can preserve a "manifest" containing the versions of all the VSTs, the OS libraries, the audio drivers, and critical Forte settings. Later, if you do encounter problems, you can compare this manifest against your current one and look for any changes in your PC configuration.

So in summary, Forte exists to play VSTs as opposed to compose or produce with them. We've had years to polish Forte and many musicians are using it professionally every night.

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2.2 System Requirements

The following are the recommended minimum requirements for running Forte:

- Windows XP Home/Professional SP2 or higher (32 bit). Windows Vista 32 or 64 bit. Windows 7 32 or 64 bit. Windows 8/8.1 32 or 64 bit.
- Minimum 1.5GHz SSE2-enabled CPU (Multiple cores supported), 1GB Memory (more recommended for large racks and sampler plugins)
- At least one supported DXi or VSTi soft-synth At least one Windows compatible MIDI input port
- At least one Windows ASIO or WDM compliant audio output device 1024x768 256 color graphics mode or higher

2.3 What's new in Forte 4

Computer Hardware Requirements

- Forte 4 requires SSE2 enabled CPUs. The SIMD options in OPTION.INI have been removed (or are now ignored.)

Rack File Format Enhancements

Forte Rack File format is new and cannot be loaded into Forte 3. Specifically, new features have been added, but some of the many variations of tempo, sync, and tempo automation have been removed in place of a simpler model, enabling a simpler user interface.

Please make sure you keep a backup copy of your rack file in Forte 3 format.

Details:

Tempo:

- BPM is ALWAYS per scene
- MIDI Sync Enable/Disable is per scene
- MIDI Automation is NEVER per scene (it is always global to the rack)
- MIDI Sync Port is GLOBAL per rack

Tempo BPM is compatible with Forte 3, but sync and automation are not – be sure to check and adjust when loading a Forte 3 rack

Transport:

- Play state is ALWAYS per scene
- MIDI Automation is NEVER per scene (it is always global to the rack)
- NEW: Starting Bar:Beat per scene
- NEW: Rewind to starting Bar:Beat on transport change. On or Off
- NEW: Time Signature per scene

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- VST plugins now honor start time and rewind settings (e.g. EnergyXT)

Play state is compatible with F3, but automation is not - check be sure to check and adjust when loading a Forte 3 rack

Forte 3 racks (and new racks) default to:

- starting bar:beat 0:0
- rewind = On,
- Time Signature = 4/4

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User Interface Enhancements

SceneView

The original SceneView in Forte 2 has been removed. What was called SceneView2 in Forte 3 is now just SceneView.

Bus Adjustment Mixer

A new "Mix" button is at the top right corner which quickly shows and hides the bus mixer. In Forte 3, the meter section in SceneView2 was only metering. In Forte 4, this is now a bus mixer with a fader. The mix levels here are global, apply to all scenes in the rack and are saved with the rack file. The levels are "adjustment" levels applied in addition to the bus scene volume applied on scene change. These adjustment volumes are also MIDI automatable (see MIDI automation).

Dynamic Transpose

New "+" and "-" buttons on the bottom of SceneView enable you to dynamically transpose the entire set up or down in half-steps. This transpose setting is not saved. Instead it is intended to be a quick way to change keys. Click the transpose value button quickly to reset transpose to 0.

Other

The "Menu" button now enables you to quickly select the set list.

The SceneView Options now enable you to show SceneView on a 2nd monitor.

Rack Manager

The Scenes and Setlists Manager in Forte 3 has been expanded to become the "Rack Manager" and includes the Scene and Set Manager, MIDI Automation, and the Rack Editor.

Scene and Set Manager

A "Details" button at the top of the Scene Pool now expands the columns to include:

- Scene transpose
- MIDI Sync enable (on/off)
- Tempo (BPM)
- Transport Play (on/off)
- Start Bar:Beat (enabling more advanced usage of some sequencer plugins)
- Rewind to Bar:Beat on Stop (on/off)
- Time Signature
- Fade time (in milliseconds, time it takes to change mix levels when switching to this scene)

A "Hide" button in the Song Pool hides the Song Pool area

Upon pressing "OK" to exit Rack Manager, the current scene is re-applied to make sure changes are accurately reflected.

MIDI Automation

The MIDI Automation manager is completely redesigned and all MIDI automation capabilities are

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now configurable through this interface. These automation settings are global to the entire rack file, not per-scene settings. Automation options include:

- Scene Change
- Scene/Song Browse
- Transpose, Tempo, and Transport
- Quick Access Scenes
- Bus Volume

In addition, sets of MIDI automation may be saved as a preset and recalled using the Presets on the left side of the display.

MIDI Sync port and speed are now configurable from this display.

There is also a MIDI automation now defined to update the current scene.

Rack Editor

This replaces the Forte 3 rack editor (in the Tools menu) and contains more configuration options, including:

- Per-scene Bus Volume
- Per-scene Instrument Mute
- Per-scene per-VST-output Bus routing and volume

Set/Song/Scene Browser

Forte 4 contains a new full-screen Scene/Song browser which enables you to quickly switch to other parts of a set list or even insert new scenes or songs dynamically into a set.

Additionally, these new features are usable via MIDI automation. See the MIDI automation tab in rack manager to open the scene browser, scroll through items, and select or cancel all via MIDI.

Other Usability Enhancements

Creating a module for audio processing is now simpler. VST effects plugins are now included in the list of VSTi instruments when creating a module. If the selected plugin is an effects plugin (non VSTi), Forte will automatically prompt you to select an audio input for the module.

You man now save and load instrument plugin FXP/FXB files from the right context menu without opening the plugin GUI.

Program Settings 103 now has an option to enable or disable Touch Mode scrolling in SceneView 66 and Set Browser 70.

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Plugin Support

Forte 4 contains better VST plugin scan diagnostics, and also supports zero-output VST plugins (for use as MIDI processors using Virtual MIDI Input).

jBridge

jBridge support has been changed significantly from Forte 3.

Forte 4 has a checkbox option in Plugin Manager to "Automatically use jBridge if needed." If checked, when Forte scans for VST plugins and encounters a DLL file it cannot load using normal means, it will attempt to load it using jBridge. If this is successful, Forte will note that it is a bridged plugin of the alternate bit width, but will treat it exactly as if it had been scanned in the normal way.

When a bridged plugin is loaded (either during rack creation or rack load) Forte will load it using jBridge.

Forte 3 Compatibility Note

Forte 3 had a checkbox in Plugin Manager to "Enable jBridge (if installed)" which behaved differently than Forte 4. If checked, the Forte 3 Plugin Manager would create jBridged versions of every VST it scanned. These were considered different plugins, were listed separately, and you could use either one. However, this created some usage difficulties and that option is now hidden in Forte 4. If you wish to use this behavior with Forte 4, you must manually edit the OPTIONS.INI file. See OPTIONS.INI for details.

Side-by-Side 32 and 64 bit VST Plugins

An additional complexity arises when both 32 and 64 bit versions of the same plugin are in the Forte 4 scan path. Since they both are identified as the same plugin, which becomes the "official" plugin? Forte removes conflicts by marking one or the other as "Ignored". The policy has two stages of priority:

The newer version of a plugin is the "official" plugin and the older one is marked as an older revision and ignored, regardless of 32 or 64 bit compatibility.
If the plugins are of the same version, the one matching the bit width of Forte (e.g. 64 bit plugins on 64 bit Forte) is made the "official" plugin and the other is marked ignored with an explanatory note.

2.3.1 Rack File Compatibility with Forte 3

Forte 4 can load rack files created in Forte 3. However, a rack saved in Forte 4 may lose some functionality when loaded in Forte 3.

As far as we know, there are no "breaking" changes. If you load a Forte 3 rack in Forte 4 and resave it, it should work as it always did on Forte 3. However, using new features in Forte 4 will obviously not work when reloaded in Forte 3.

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Use backups!

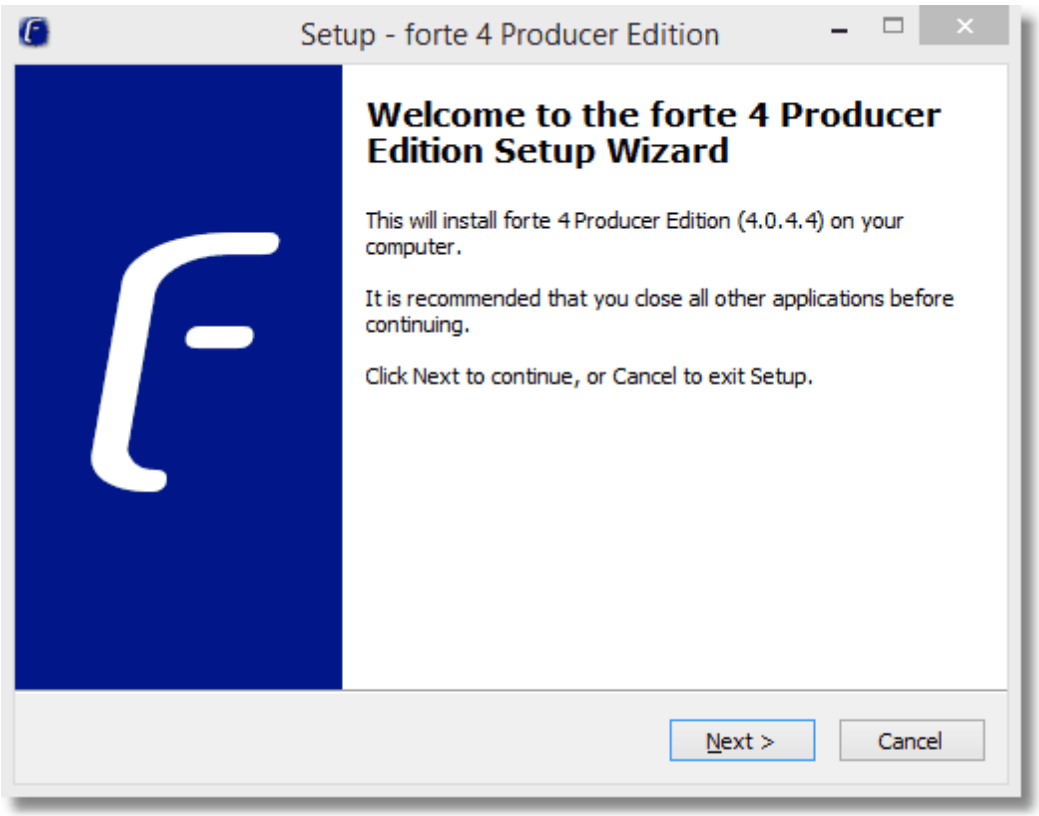
2.4 Where to go for Help

Go to www.brainspawn.com/go/support for help.

3 Installation and First Time Setup

3.1 Installer

The Forte installer is a single installer package that can install Forte in either 32 bit or 64 bit mode, and run in Trial Mode (no license), Performer mode, or Producer mode.


Setup - forte 4 Producer Edition
Welcome to the forte 4 Producer Edition Setup Wizard
This will install forte 4 Producer Edition (4.0.4.4) on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

Run the Installer

- **Accept the license agreement**. If you cannot agree to the license terms, select "I do not accept the agreement" and the installation will stop.
- **Select 32 bit or 64 bit install**. Forte 64 bit can only use 64 bit MIDI and audio drivers and 64 bit plugins. Likewise, 32 bit Forte can only use 32 bit MIDI and audio drivers and 32 bit plugins. A plugin called "jBridge[37]" (available from another vendor) can be used to run 64 pit plugins in 32 bit Forte and vice-versa. Note that you can run the installer twice and install both 32 and 64 bit versions on your computer.
- **Select Program Installation Folder**

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- **Select Program Shortcut options**
- **Additional Options**
  - Create Desktop Icon
  - Create Quick Launch Icon
  - Delete existing configuration files
  - Migrate MIDI presets and plugin cache from Forte 3

When is license information required?

Forte 3 required license information during the installer. Forte 4 prompts for license information 19 when it is run.

What Configuration is Shared between 32 bit and 64 bit versions?

Forte 32 bit and 64 bit use the same configuration files, meaning that configuration changes in 32 bit will also affect the 64 bit installation (they share the same OPTIONS.INI file). However, the plugin cache for each is separate. Forte 32 bit uses a cache file called PLUGINS.XML and the 64 bit version uses PLUGINS64.XML.

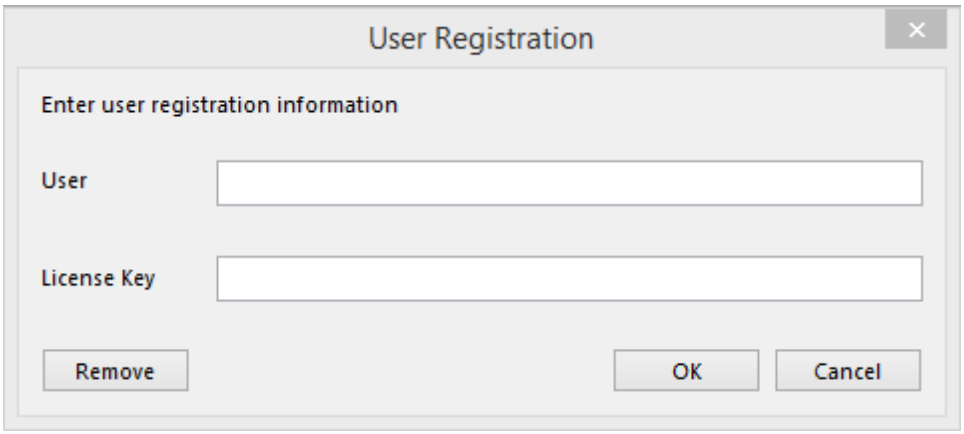
What Configuration is Shared between Forte 4 and Forte 3/2?

Nothing in the configuration directory is shared. Forte 4 uses a "Forte 4" folder in the application data directory to store options and plugin cache.

3.2 Enabling Forte with a Registration User Name and License Key

The first time you run Forte after installation, or if you have not yet provided a user name and license key, Forte will run in Trial mode. In Trial mode Forte will prompt you for license information and exit after 30 minutes if you choose to not supply it.

The prompt to enter user registration information looks like this:



If you have received user registration information, enter it here and press OK. This will activate Forte in either Performer or Producer mode.

You may access this screen again from the Tools menu by choosing Tools|Update or Enter

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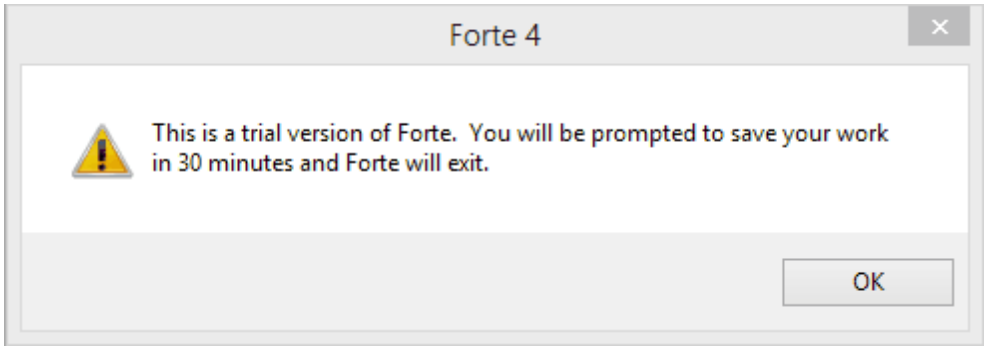
User Registration Information. You may press "Remove" to remove any current registration information.

If you choose to run Forte in Trial mode, you will see the following message.



3.3 First Time Setup

If Forte has never been configured on your computer, a series of one time setup dialog boxes will appear:

Configuration Audio Options: 1st you will be asked to select the audio I/O device(s) you wish to use. See Audio Options 108 for details. This decision is changeable later by selecting Program Settings 103.

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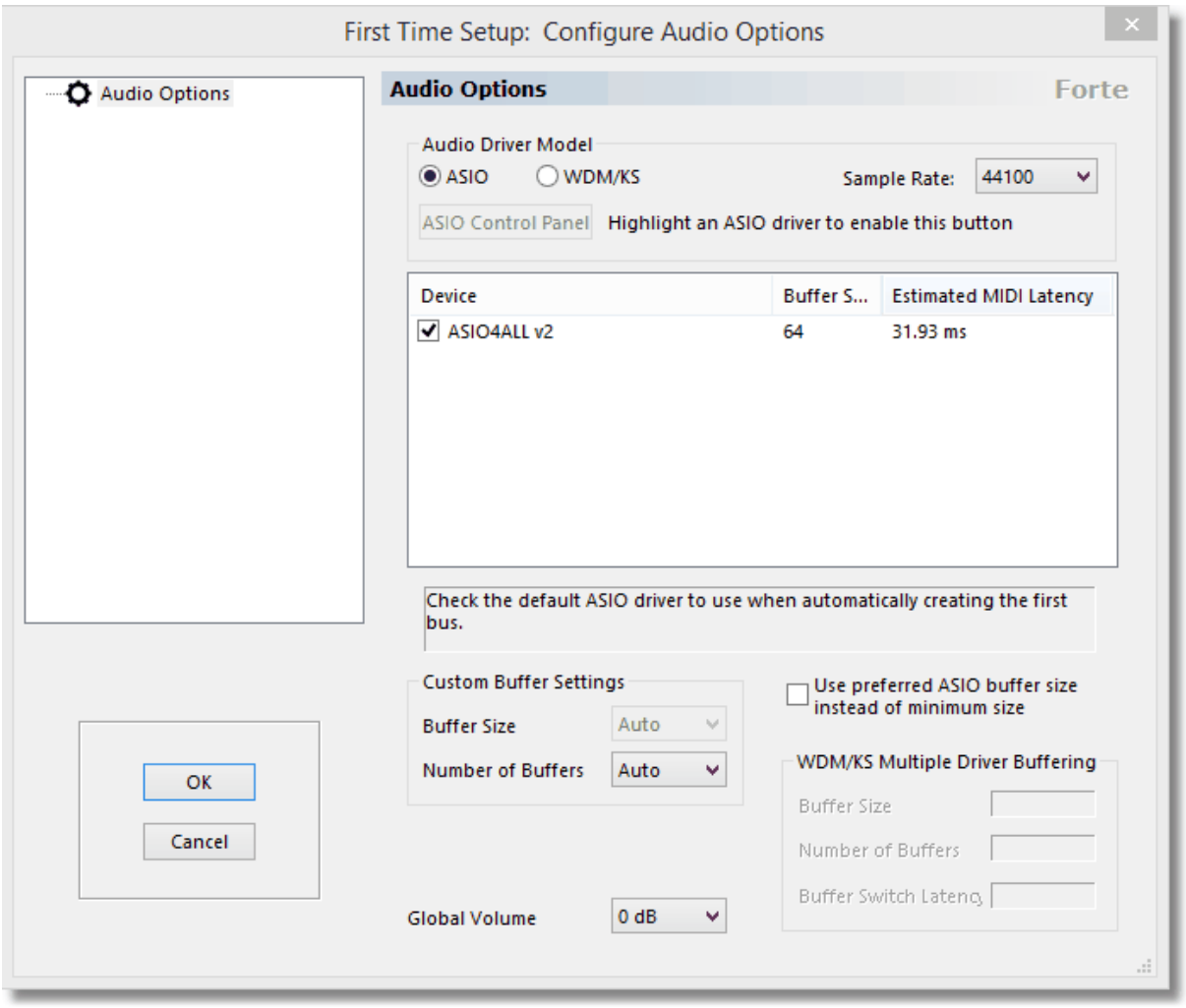
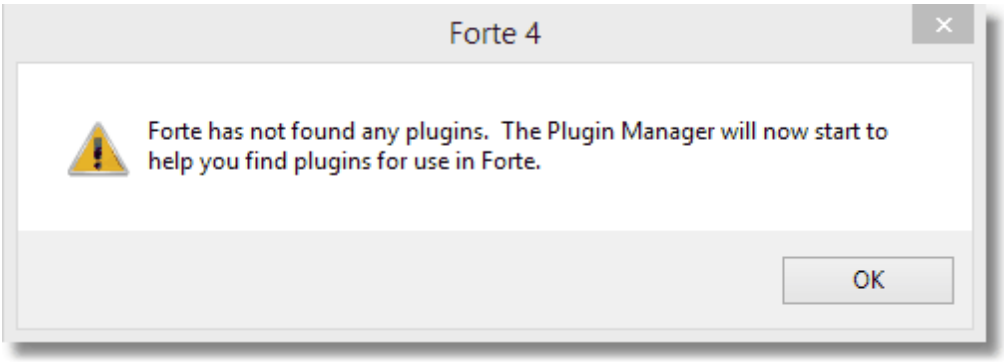


Find Plugins: 2nd you will be notified that Forte has not found any plugins. Press OK to start the Plugin Manager to configuration the location of your plugins and scan them into Forte for use. See Plugin Manager[33] for more details. For now, you will be presented with the VST Scan Folders[35] tab. Add the location(s) of your VST plugins and press "Find my VST Plugins..." to continue.



This may take several minutes to complete, but after the scan the plugins will be

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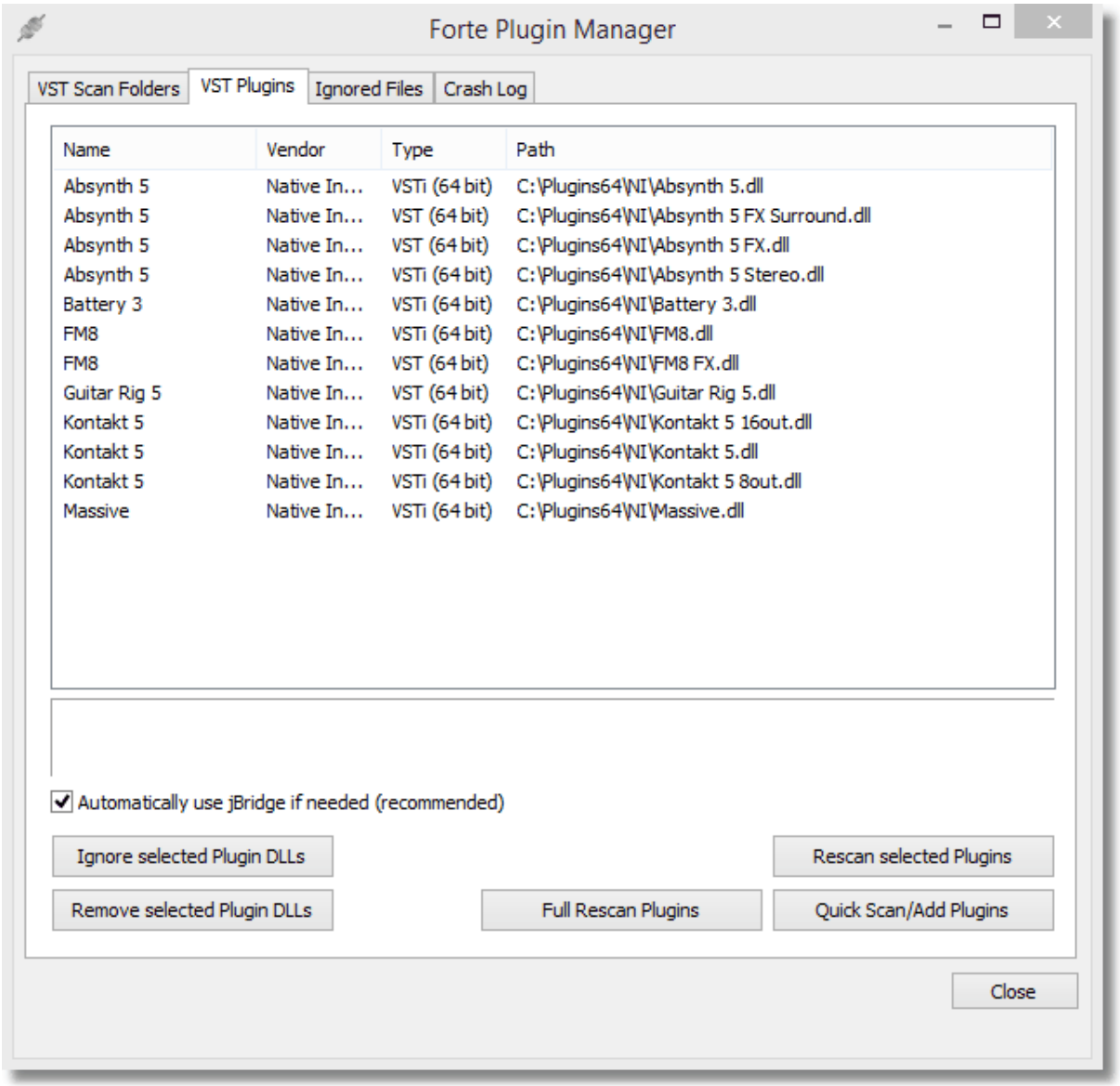
instantly available to you when you run Forte in the future.

At the end of the scan, the VST Plugins tab [36] will be visible showing the found VST plugins. Press Close to continue.


Forte Plugin Manager
VST Scan Folders
VST Plugins
Ignored Files
Crash Log
Name
Vendor
Type
Path
Absynth 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Absynth 5.dll
Absynth 5 Native In... VST (64 bit) C:\Plugins64\NI\Absynth 5 FX Surround.dll
Absynth 5 Native In... VST (64 bit) C:\Plugins64\NI\Absynth 5 FX.dll
Absynth 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Absynth 5 Stereo.dll
Battery 3 Native In... VSTi (64 bit) C:\Plugins64\NI\Battery 3.dll
FM8 Native In... VSTi (64 bit) C:\Plugins64\NI\FM8.dll
FM8 Native In... VST (64 bit) C:\Plugins64\NI\FM8 FX.dll
Guitar Rig 5 Native In... VST (64 bit) C:\Plugins64\NI\Guitar Rig 5.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5 16out.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5 8out.dll
Massive Native In... VSTi (64 bit) C:\Plugins64\NI\Massive.dll
Automatically use jBridge if needed (recommended)
Ignore selected Plugin DLLs
Rescan selected Plugins
Remove selected Plugin DLLs
Full Rescan Plugins
Quick Scan/Add Plugins
Close

Testing your Setup

Press the button labeled "+INST" to show a menu of available plugins. The plugins found during the plugin scan should be in this menu. If not, use Tools|Manage VST Plugins to return to the Plugin Manager.

Press the button labeled "+BUS" to show a menu of available audio outputs. You may adjust this using Options|Program Settings [103] and selecting the Audio Options [108]

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category.

Verifying Version and Registration Information

Use Help|About to show Forte version information including your registration information. This is also available on the program title bar.

Opening Online Documentation

Press the F1 key or use Help|Help menu to open Forte Help.

4 Tutorials

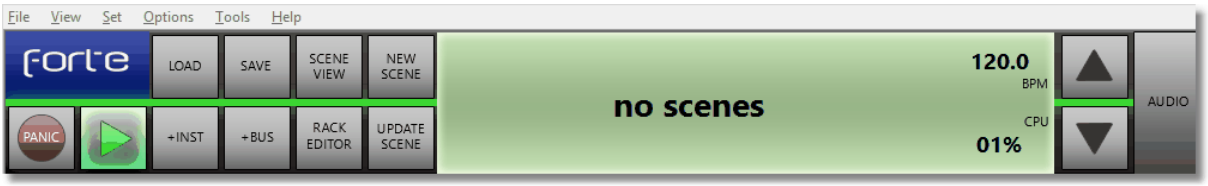
4.1 Tutorial #1: Adding a Plugin and Creating Scenes

This is a tutorial for 1st time Forte users.

Install Forte 18

First Time Setup 20

Now Forte is running and you can see the Forte Control Module 31 with its buttons for loading and saving rack files, adding instruments, etc.



Add an Instrument Plugin

Press the +INST button to open a menu of available instrument plugins. Select a plugin and it will be added to your rack.

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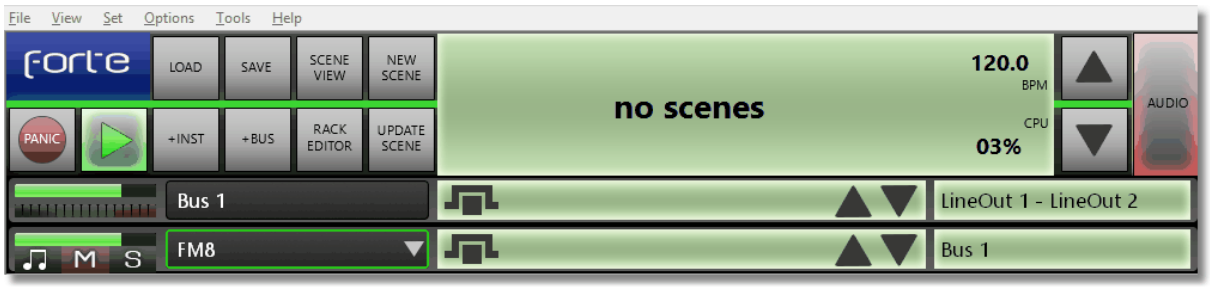

Note the Audio button on the right side of the Control Module is glowing red. This indicates that audio is now streaming to your audio output device. Press the Audio button to stop or restart audio streaming.

Tip: You can also add a VST effect plugin and Forte will prompt you to select and audio input channel to feed it.

Edit the Plugin's Settings

Press the "down" arrow next to the plugin's name (highlighted in green above) to open the plugin UI[33]. Adjust the plugin settings as you desire and play a MIDI controller until the plugin sounds like you want it to. Now you are ready to preserve the plugin's setup in a "Scene".

Snapshot the 1st Scene

Press the "NEW SCENE[59]" button to snapshot a new scene, preserving the plugin's configuration as you last adjusted it. A new scene with a name reflecting the current date and time will appear in the scene list. This scene can be renamed[59] later.

Snapshot a 2nd Scene

Adjust the plugin for a different sound and then press "NEW SCENE" again to preserve another scene with the new plugin settings.

Switch between Scenes

Now you can use the arrow buttons to move back and forth between the two scenes and the plugin sound will switch between the two.

> ***Important point: A scene is a "snapshot" of the configuration at the point in time when the scene was created (or updated). Further changes to the plugin will not be preserved in the current scene unless you create a new scene or update the current scene.***

Open SceneView to see the Performance Display

Press "SCENE VIEW" to open the SceneView[66] display. The rack view is the basic view for rack editing, but for performance open the SceneView to see a full screen display optimized for performance. Press the "HIDE" button to hide SceneView and return to the rack display.

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Save Your Rack

Press "SAVE" (or File|Save) to save your rack file for later use. When ready press "LOAD" to select and reload your rack.

Advanced Topics

- Use Scene Commands 46 to control what happens to each plugin as a scene is selected for use
- Use Rehearsal Mode 66 during Rack editing to avoid accidentally switching scenes and losing changes
- Organize Scenes into Songs and Setlists 60
- Add Insert Effects 48 to instrument and bus modules

4.2 Tutorial #2: Audio Routing and Mixing

Instrument modules 32 stream audio from a VSTi or DXi instrument plugin through any insert effects and through a mixer to a bus 31. A rack has contain many instrument modules and many buses. Each bus feeds an audio output.

- More than one instrument can feed the same bus
- More than one bus can feed the same audio output
- Each mix level and instrument bus assignment is per-scene and can change for different scenes

Select an Output Bus for an Instrument

Click the bus name on the instrument module to see a bus menu (e.g. "Bus 1" above). Select a bus from the menu to route the audio to the bus.

Change instrument or bus volume

Both instrument modules and buses have mix volume controls. You can change either to alter the audio mix. Adjustments to bus volume affect all instruments that route through the bus while adjustments to instrument volume affect only the instrument (post-insert-effects).

Route buses to audio outputs

Each bus has an audio output (e.g. "LineOut 1 - LineOut 2" above), which is either a mono or stereo channel of the audio hardware. Click on the audio output label on the bus to

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see an audio output menu. Select an audio output from the menu to route the audio to the audio output.

Tip: With ASIO drivers, only one audio hardware device can be used at a time. The choice of audio device is determined by the 1st chosen audio output on a bus (in other words, before any buses exist, no audio hardware is enabled.) When you add an instrument, if there is no bus already, a new one is created with the default audio hardware. If you wish to use another ASIO device instead, create the bus first by pressing +BUS on the empty rack and determine the audio hardware before you add any instruments.

Advanced Topics

- Each instrument's audio chain starts with an audio input 47 (by default "no input") - audio from the input is routed through the instrument. You can set up an instrument to stream from the audio input device
- Adjust audio mix for multi-output plugins (each output individually) - see the Audio Mix 47 tab of the plugin console.
- Audio mix can be automated either by MIDI Automation 78 (responding the MIDI input) or a Control Surface 85
- Bus mix can be adjusted using the SceneView 66 mixer

4.3 Tutorial #3: MIDI Routing and Filtering on a Plugin

Each plugin in a rack (both instruments and insert effects) has a MIDI routing filter.

- All MIDI routing is per-scene and can change for each scene

Open the Plugin Console to show the MIDI Filter

Press the arrow next to the instrument name and select the MIDI Routing tab:

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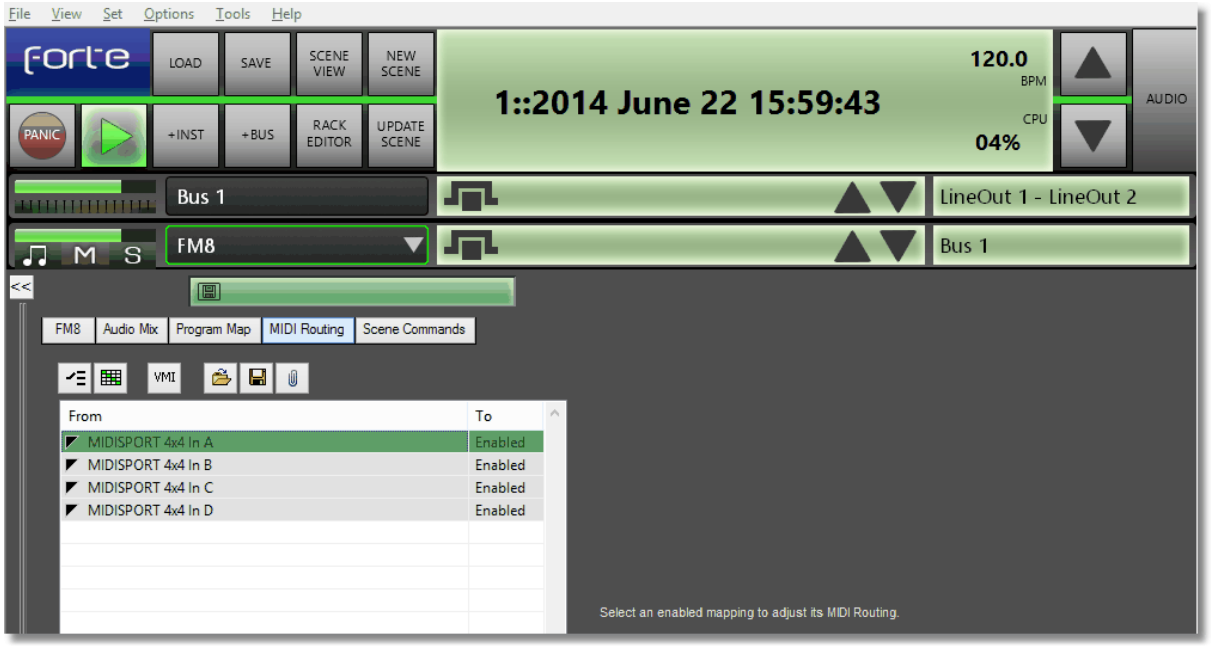

Enable or Disable an Input Port

The "From" column has entries for each MIDI input port. Right click on the "To" column to present a menu with choices for how to enable or disable MIDI from a specific input port.

Select an Input Port and Channel

Select an Input Port and Channel to display the MIDI routing and filtering for that input port/channel combination. Right click in the "To" column of a channel for a menu of options for enabling or disabling MIDI input from a specific channel, remap a channel, add a layer, etc.

Select a Key Range Tab

A Key Range blocks MIDI notes outside a selected range of notes and also enables you to transpose the selected range up or down in half-steps. Four key ranges can be configure to do advanced ranges and splits. Uncheck "Enable MIDI Notes" to disable MIDI Note events from this input port/channel.

Select the Controllers Tab

The controllers table enables, disables, remaps and layers MIDI CC messages. Press "Unity Map" to restore the default no remap. You can also do things like rescale between a minimum and maximum value, set a value to send when the scene is used (Init value), and set up advanced modes like Toggle and Snap.

Advanced Topics

Full discussion of MIDI Filtering and Automation 51

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4.4 Tutorial #4: Global MIDI Automation

Many functions of a rack file can be controlled remotely by MIDI Automation[78], including:

Change Schema from MIDI Program Change
Advance to Next Scene
Back to Previous Scene
Browse to Scene or Set Item
Transpose up or down one-half step
Tempo Adjust, Increment, and Decrement
Tap Tempo
Transport Play/Stop
MIDI Panic
Quick Scene Access (1-8)

And many others...

Set Up MIDI Automation

1. Open Rack Editor[33] by pressing "RACK EDITOR" button on Control Module
2. Change to the "Global MIDI Automation" tab
3. Press the "Add..." button to show a menu of available automation actions. Select one.
4. In the MIDI Automation item that is created, choose the source port, channel, kind, etc.
5. Press OK to close the Rack Editor

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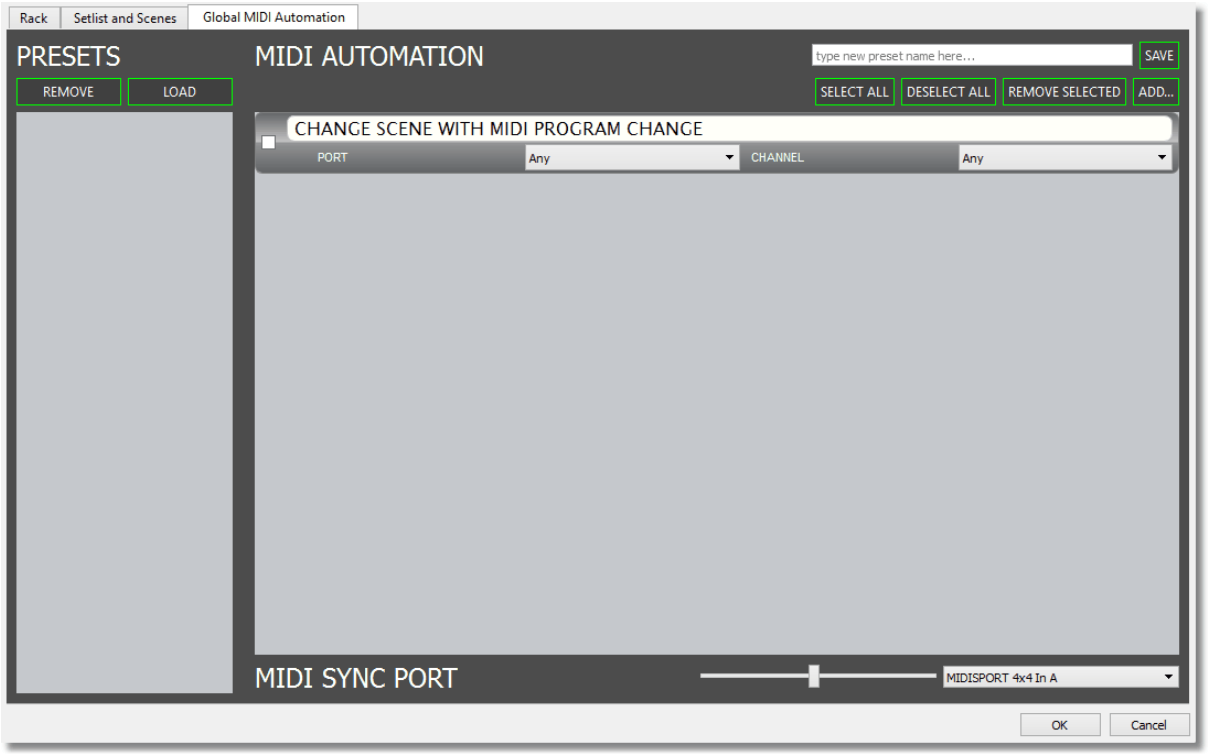

Advanced Topics

Full discussion MIDI Automation 78

4.5 Tutorial #5: Preparing a Rack for Performance

Before performing with any computer-based rig, you should use all the tools available to you to build confidence in your setup. Remember that the reliability of your computer-based rig is not just about Forte, but about everything:

- **Your computer:**
  - Is it reliable?
  - Does it boot reliably?
  - Is it free of extraneous software and especially anything that could slow the computer down.
- **Your audio I/O device**:
  - Does the audio driver load every time the computer boots without issues?
  - Are you able to play for extended periods of time without audio glitches?
- **Your MIDI I/O device:**
  - Is it reliable?
  - If you you have more than one MIDI I/O device, do they come up in with consistent well-known port names? Port names like "USB MIDI In" is not helpful.
- **Your audio plugins:**
  - Can they withstand hours of audio streaming without issues (e.g. memory leaks, crashes, other bugs)
- **Your rack file**
  - Are your scene changes responsive (hint: slow scene changes are always slow

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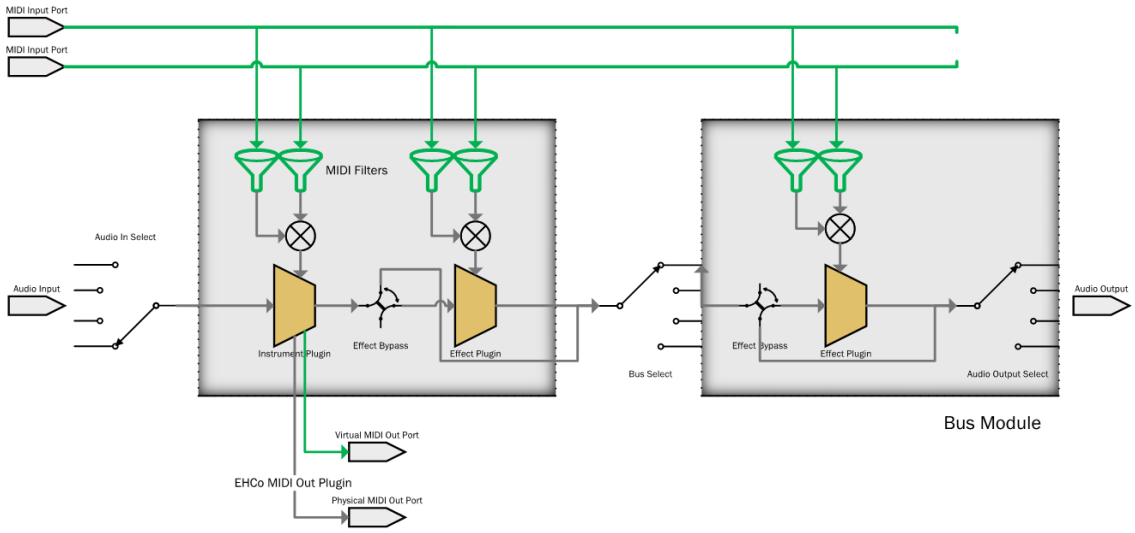
because of individual plugins reloading sound data)?
- Is your setlist ordered correctly for smooth advance through the set? Hint: see Scenes, Songs, and Setlists [58]
- Do you keep backups [103] of your important rack files?

To help with these things, Forte includes several important tools you should be using to build confidence in your rig. See Confidence Building Tools [100] for more information.

5 MIDI and Audio Signal Flow

This is the signal flow in Forte:



MIDI Input/Output Ports: MIDI messages from external sources enter Forte from MIDI input ports. MIDI Input ports may be virtual input ports created by virtual MIDI output. See MIDI Input and Output Ports [113] for details on how to configure ports. Only the EHCo plugin [92] can output MIDI messages to physical MIDI output ports.

MIDI Filters: Each plugin has a separate MIDI filter for each MIDI input port. See Plugin MIDI Filtering and Automation [51] for details on how to set up MIDI filters.

Audio Input: Each instrument module [32] can have a selected audio input [47] mono or stereo channel feeding the instrument plugin.

Audio Output: Each bus module [31] can be assigned to a selected audio output mono or stereo channel.

Bus Select: Each instrument module [32] can be assigned to a selected bus [31] for audio output. More than one instrument can output to the same bus.

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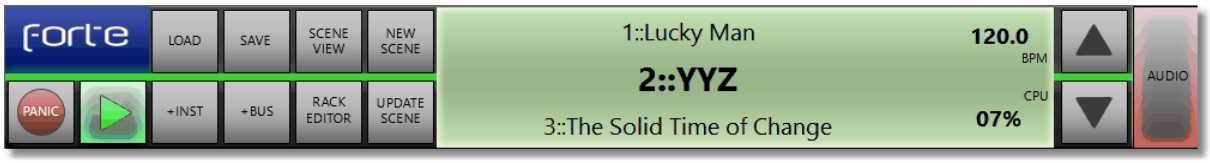
Effect Bypass: Effect plugins[48] can be bypassed or not per scene.

6 User Interface Overview

6.1 Control Module

The top rack space is the Control Module.



On the Control Module you can:

- AUDIO button (right): Turn rack power on or off. When off, Forte does not consume CPU power for audio processing and closes the audio outputs.
- LOAD/SAVE buttons: Load and save racks.
- +INST button: Add a new instrument module.
- +BUS button: Add a new bus
- NEW SCENE button: Create a new scene
- UPDATE SCENE button: Update an existing scene
- Create and manage scenes.
- Go to the next or previous scene
- Set Tempo
- Set Transport Play/Stop
- View CPU utilization.
- PANIC button: MIDI Panic.

6.2 Output Bus Modules

Below the Control Module are the output buses. A bus is the place to add audio effects to multiple instrument modules simultaneously or control the mix of several modules as a group.

On each bus you can:

- View audio levels going into the audio output device (post bus effects) with the Audio Meter.
- Change the volume of all audio routed to the bus with the bus volume fader (post bus

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effects).

- Add, remove or reorder VST and DirectX audio effects.
- Display the console for each VST and DirectX audio effect.
- Select an audio output device.

Each bus is assigned to a single mono or stereo audio output and may share hardware outputs. You may rename buses by clicking on the "Bus Name" field and entering a new name. The audio meter displays peak level. Red is clipping level. To correct for overdriven outputs you may:

- Adjust the bus volume fader. This affects every module feeding the bus.
- Adjust audio output level at the instrument or audio effect console. Many instruments and audio effects have output level controls.
- Adjust audio output level using MIDI input. Many instruments respond to MIDI controller 7 (volume).
- Change the global volume trim in Program Settings[108] Audio Options.

The audio meter also provides an indication of audio dropouts. When an output is incapable of providing enough audio to the sound card, it will notify you by driving the meter to bright red. If no sound is being produced but the meter intermittently shows a spike, check to make sure you are not running too many modules and buses.

6.3 Instrument Modules

Below the output buses are the instrument modules. Each contains one VSTi or DXi instrument. Although the sounds on this instrument can be changed, the instrument itself cannot. To use a different instrument, create a new module.

Instrument modules may contain VST and DirectX audio effects which are applied to that module only. The output of a module goes to one output bus. The bus routing for a module can be changed at any time by clicking on the bus assignment display.

On each module you can:

- Adjust volume of the instrument output (post effects).
- View MIDI input activity.
- Display or hide the console for the instrument.
- Mute or Solo the module.

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- Add, remove, bypass, or reorder audio effects.
- Display the console for audio effects.
- Select an output bus.

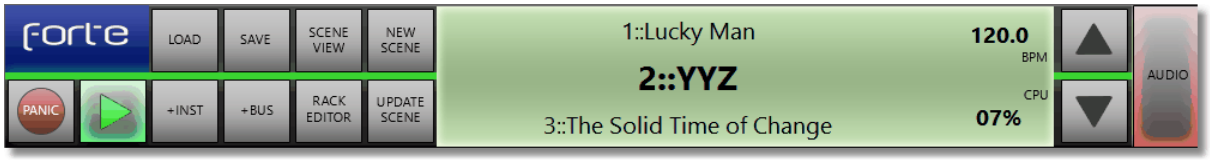
6.4 Plugin Consoles

See Plugin Console 39

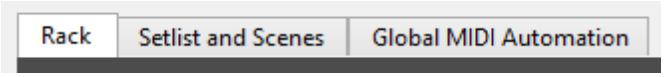
6.5 SceneView

See SceneView 66

6.6 Rack Editor



Press the RACK EDITOR button to open the rack editor. The rack editor has three tabs:



- Rack 73
- Setlist and Scenes 75
- Global MIDI Automation 78

7 Using Plugins

7.1 Plugin Manager

The plugin manager is a utility integrated into Forte that scans for VST plugins and enables you to manage them.

Access the plugin manager either from the program start menu "Manage VST Plugins" or from Forte's Tools|Manage VST Plugins... menu item.

When exiting the plugin manager, Forte will immediately rebuild its plugin list to reflect changes made in the plugin manager.

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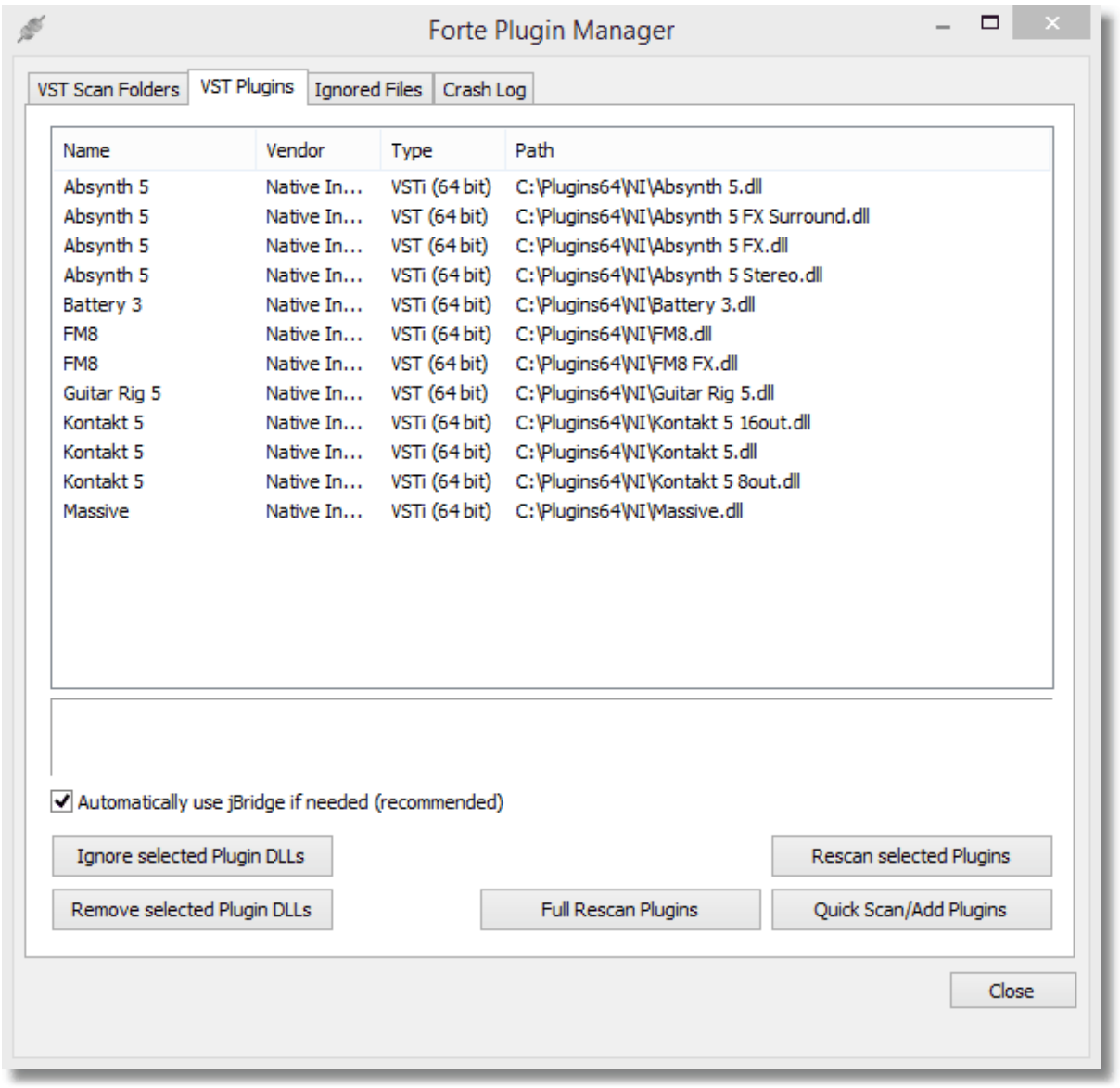
Forte Plugin Manager
VST Scan Folders
VST Plugins
Ignored Files
Crash Log
Name
Vendor
Type
Path
Absynth 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Absynth 5.dll
Absynth 5 Native In... VST (64 bit) C:\Plugins64\NI\Absynth 5 FX Surround.dll
Absynth 5 Native In... VST (64 bit) C:\Plugins64\NI\Absynth 5 FX.dll
Absynth 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Absynth 5 Stereo.dll
Battery 3 Native In... VSTi (64 bit) C:\Plugins64\NI\Battery 3.dll
FM8 Native In... VSTi (64 bit) C:\Plugins64\NI\FM8.dll
FM8 Native In... VST (64 bit) C:\Plugins64\NI\FM8 FX.dll
Guitar Rig 5 Native In... VST (64 bit) C:\Plugins64\NI\Guitar Rig 5.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5 16out.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5 8out.dll
Massive Native In... VSTi (64 bit) C:\Plugins64\NI\Massive.dll
Automatically use jBridge if needed (recommended)
Ignore selected Plugin DLLs
Rescan selected Plugins
Remove selected Plugin DLLs
Full Rescan Plugins
Quick Scan/Add Plugins
Close

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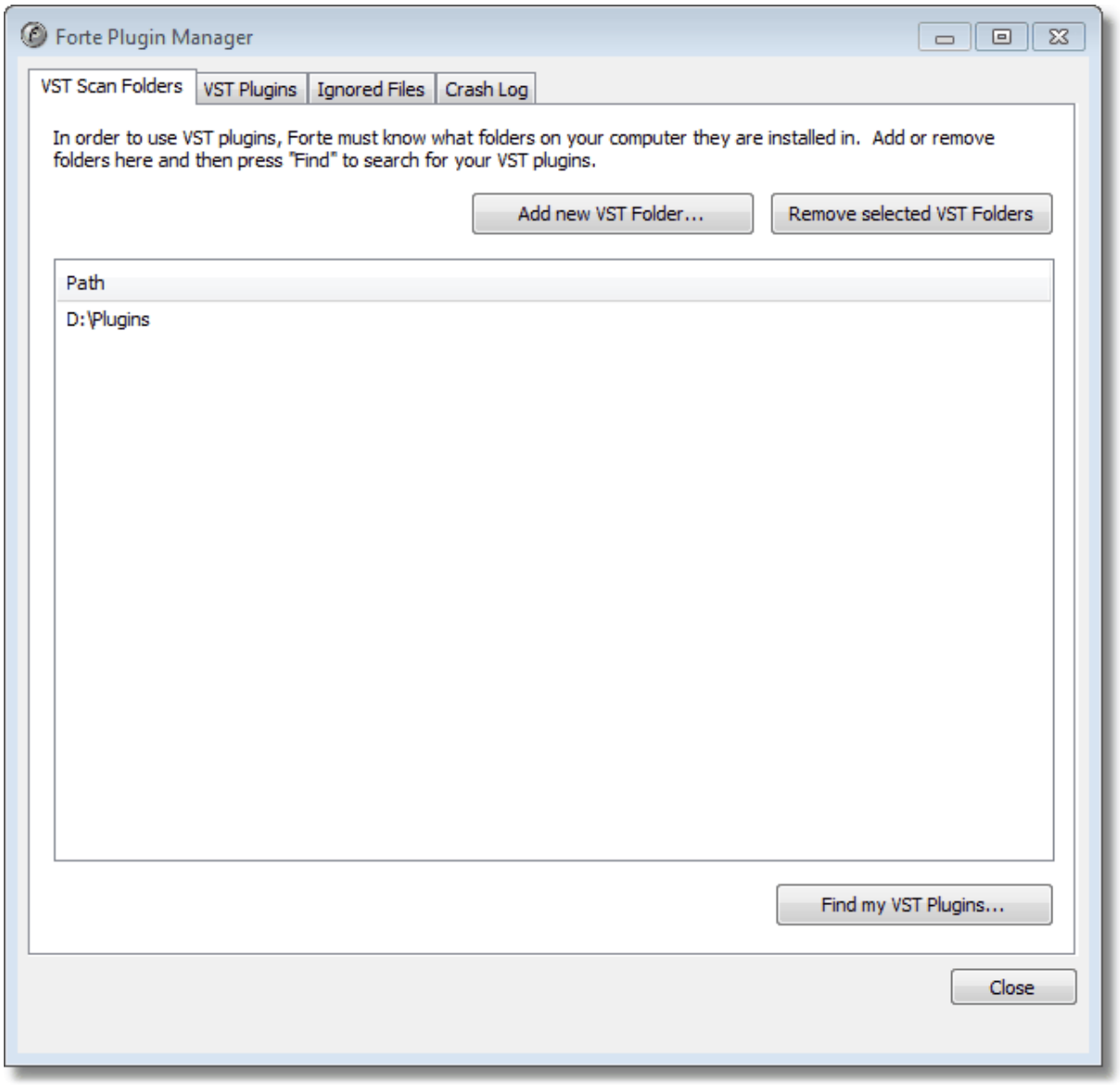
7.1.1 VST Scan Folders


Forte Plugin Manager
VST Scan Folders
VST Plugins
Ignored Files
Crash Log
In order to use VST plugins, Forte must know what folders on your computer they are installed in. Add or remove folders here and then press "Find" to search for your VST plugins.
Add new VST Folder...
Remove selected VST Folders
Path
D:\Plugins
Find my VST Plugins...
Close

The VST Scan Folders tab enables you to add folders to scan for VST plugins. You may add or remove folders from the list and may start scanning.

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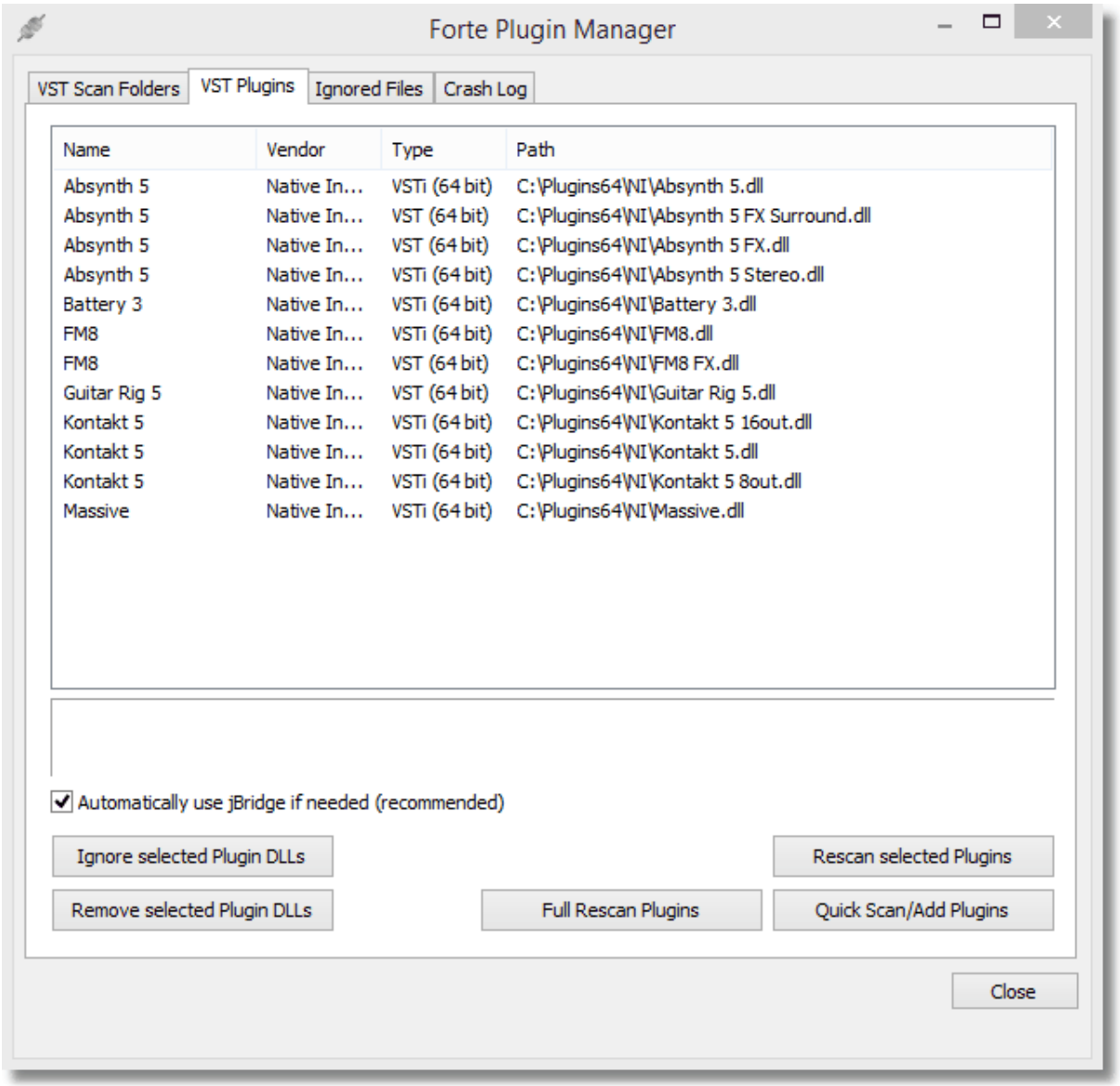
7.1.2 VST Plugins List


Forte Plugin Manager
VST Scan Folders
VST Plugins
Ignored Files
Crash Log
Name
Vendor
Type
Path
Absynth 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Absynth 5.dll
Absynth 5 Native In... VST (64 bit) C:\Plugins64\NI\Absynth 5 FX Surround.dll
Absynth 5 Native In... VST (64 bit) C:\Plugins64\NI\Absynth 5 FX.dll
Absynth 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Absynth 5 Stereo.dll
Battery 3 Native In... VSTi (64 bit) C:\Plugins64\NI\Battery 3.dll
FM8 Native In... VSTi (64 bit) C:\Plugins64\NI\FM8.dll
FM8 Native In... VST (64 bit) C:\Plugins64\NI\FM8 FX.dll
Guitar Rig 5 Native In... VST (64 bit) C:\Plugins64\NI\Guitar Rig 5.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5 16out.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5.dll
Kontakt 5 Native In... VSTi (64 bit) C:\Plugins64\NI\Kontakt 5 8out.dll
Massive Native In... VSTi (64 bit) C:\Plugins64\NI\Massive.dll
Automatically use jBridge if needed (recommended)
Ignore selected Plugin DLLs
Rescan selected Plugins
Remove selected Plugin DLLs
Full Rescan Plugins
Quick Scan/Add Plugins
Close

This is the list of discovered VST plugins. It includes the plugin name, the plugin vendor, what type of plugin it is, and the DLL pathname.

You may select one or more plugins and Remove or Ignore the DLLs that host these plugins. Ignored plugins will go on the Ignored VST Files List 38 as "user ignored".

If jBridge is installed and the "***Automatically use jBridge if needed***" checkbox is checked, Forte will automatically create jBridged versions of plugins. When Forte scans for VST plugins and encounters a DLL file it cannot load using normal means, it will attempt to load it using jBridge. If this is successful, Forte will note that it is a bridged plugin of the alternate bit width, but will treat it exactly as if it had been scanned in the normal way. See Using jBridge 37 for details.

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7.1.2.1 Using JBridge

Forte includes support for jBridge to support 32 bit VST plugins within 64 bit Forte and vice versa. jBridge is a separate product not affiliated with Brainspawn. Without a bridge like this, Forte can only load plugins that match the "bit-width" of Forte (e.g. 64 bit Forte cannot load a 32 bit VST plugin).

jBridge is available on the Web. Search for "jBridge VST".

jBridge works by interposing itself between Forte and VST plugins and operating on the plugin's behalf. Forte interacts with jBridge while presenting the user with a view of the plugin itself. jBridge handles making this transparent. The result is that 64 bit Forte can use 64 bit jBridge to host a 32 bit VST plugin.

Forte has a checkbox option in Plugin Manager to "***Automatically use jBridge if needed***." If checked, when Forte scans for VST plugins and encounters a DLL file it cannot load using normal means, it will attempt to load it using jBridge. If this is successful, Forte will note that it is a bridged plugin of the alternate bit width, but will treat it exactly as if it had been scanned in the normal way.

When a bridged plugin is loaded (either during rack creation or rack load) Forte will load it using jBridge.

Forte 3 Compatibility Note

Forte 3 had a checkbox in Plugin Manager to "***Enable jBridge (if installed)***" which behaved differently than Forte 4. If checked, the Forte 3 Plugin Manager would create jBridged versions of every VST it scanned. These were considered different plugins, were listed separately, and you could use either one. However, this created some usage difficulties and that option is now hidden in Forte 4. If you wish to use this behavior with Forte 4, you must manually edit the OPTIONS.INI file. See OPTIONS.INI 122 for details.

Side-by-Side 32 and 64 bit VST Plugins

An additional complexity arises when both 32 and 64 bit versions of the same plugin are in the Forte 4 scan path. Since they both are identified as the same plugin, which becomes the "official" plugin? Forte removes conflicts by marking one or the other as "Ignored". The policy has two stages of priority:

1. The newer version of a plugin is the "official" plugin and the older one is marked as an older revision and ignored, regardless of 32 or 64 bit compatibility.
2. If the plugins are of the same version, the one matching the bit width of Forte (e.g. 64 bit plugins on 64 bit Forte) is made the "official" plugin and the other is marked ignored with an explanatory note.

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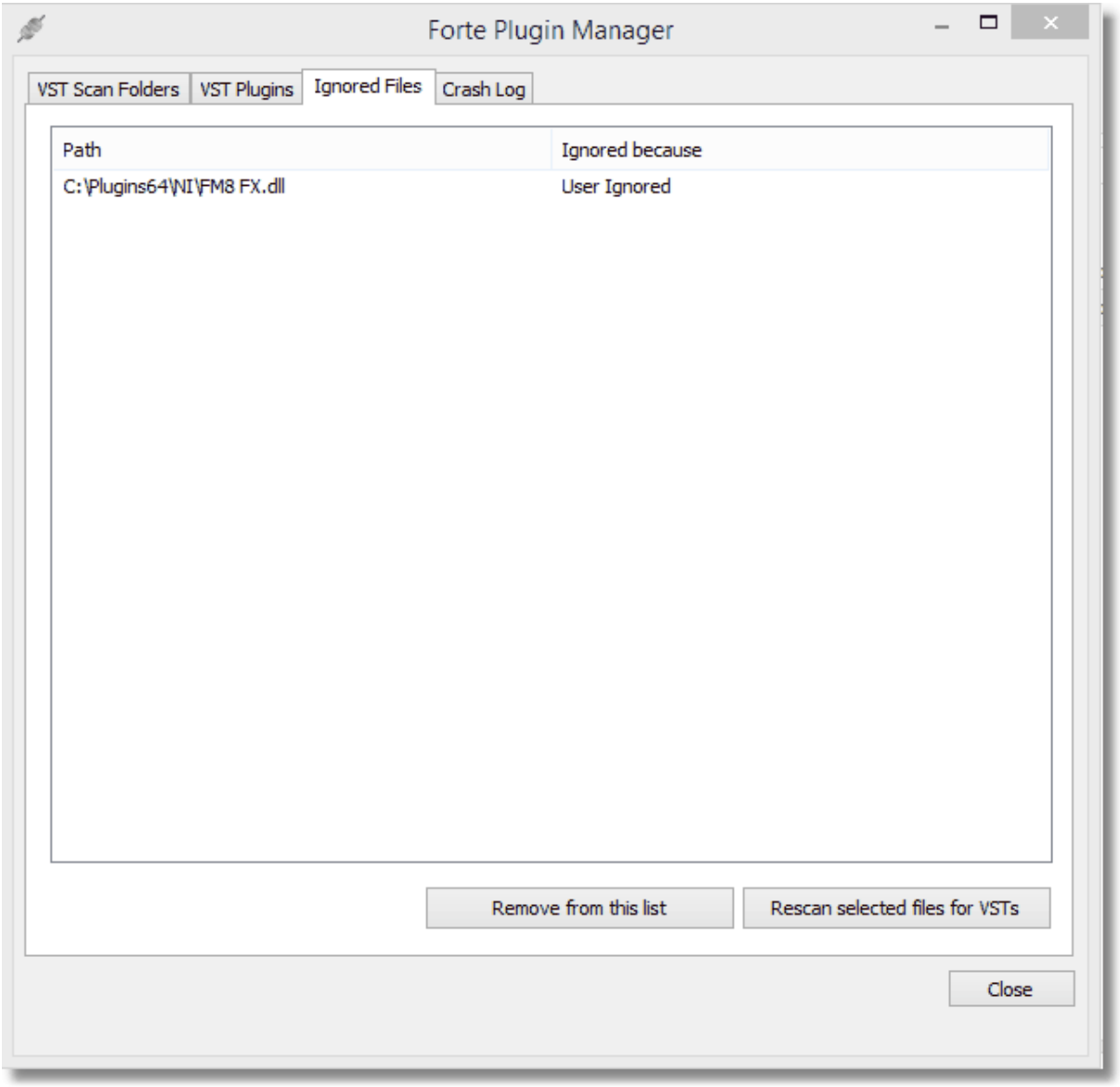
7.1.3 Ignored VST Files List



This tab displays the list of DLL files that were skipped during the VST scan and displays the reason for rejection. You may select one or more DLL files and Remove them from the list, in which case the next scan will attemp to rescan these DLLs. You may also press Rescan to immediately rescan any selected DLLs for inclusion in the plugin list.

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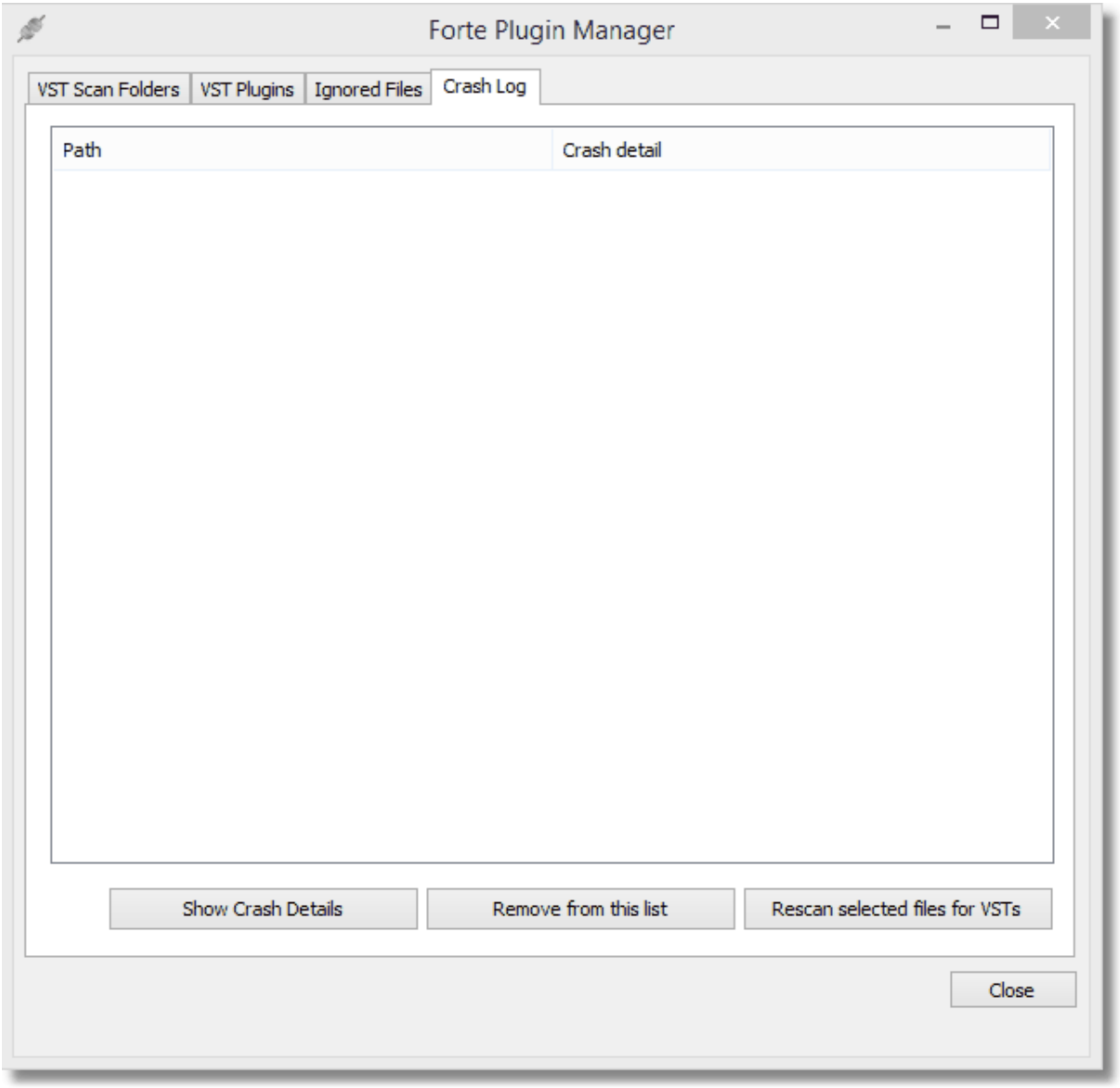
7.1.4 VST Crash List



If the Plugin Manager crashes when trying to enumerate a VST plugin, it will log the results in this list. You may extract extra details, remove it from the list, or rescan it immediately.

7.2 Plugin Console

Each instrument has its own user interface, called a "Console" (e.g. Native Instruments B4 has the vintage drawbar organ keyboard shown below). Consoles can be either displayed or hidden.

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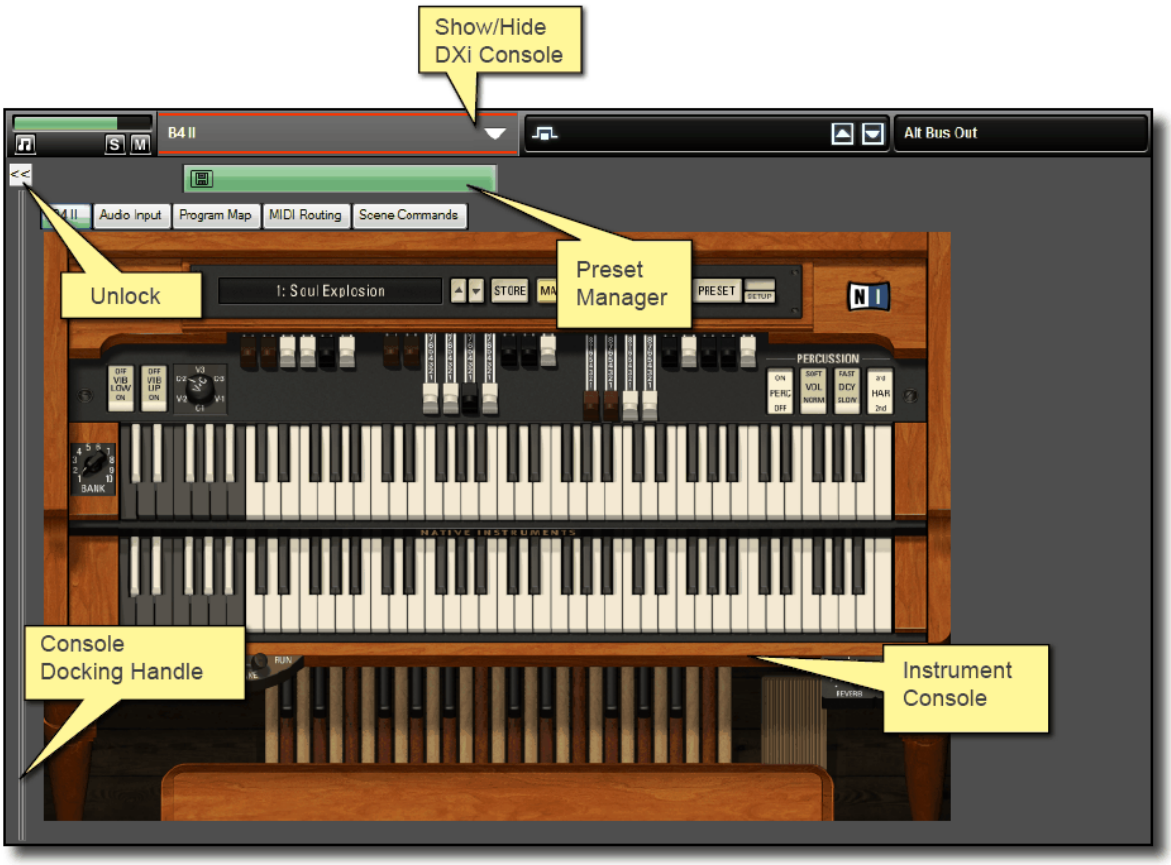

Docking and Floating the Instrument Console

The console may either be docked (embedded in the Forte window below the Instrument Module strip) or floating (shown in a separate window). To float a docked console, double click on the docking handle or single click on the float button at the top left of the console window. To dock a floating window, double click on the title bar of the console window.

Preset Manager

Forte features easy access to different preset sounds on an instrument. These sounds can be either built into the instrument (similar to ROM presets on hardware sound modules), or created and stored by the user (similar to RAM presets on hardware sound modules.) Regardless of the type of preset, Forte always displays presets in an easy-to-find alphabetical format broken into sub-menus. A user-defined preset has a "user" icon next to the name whereas ROM presets have a "chip" icon.

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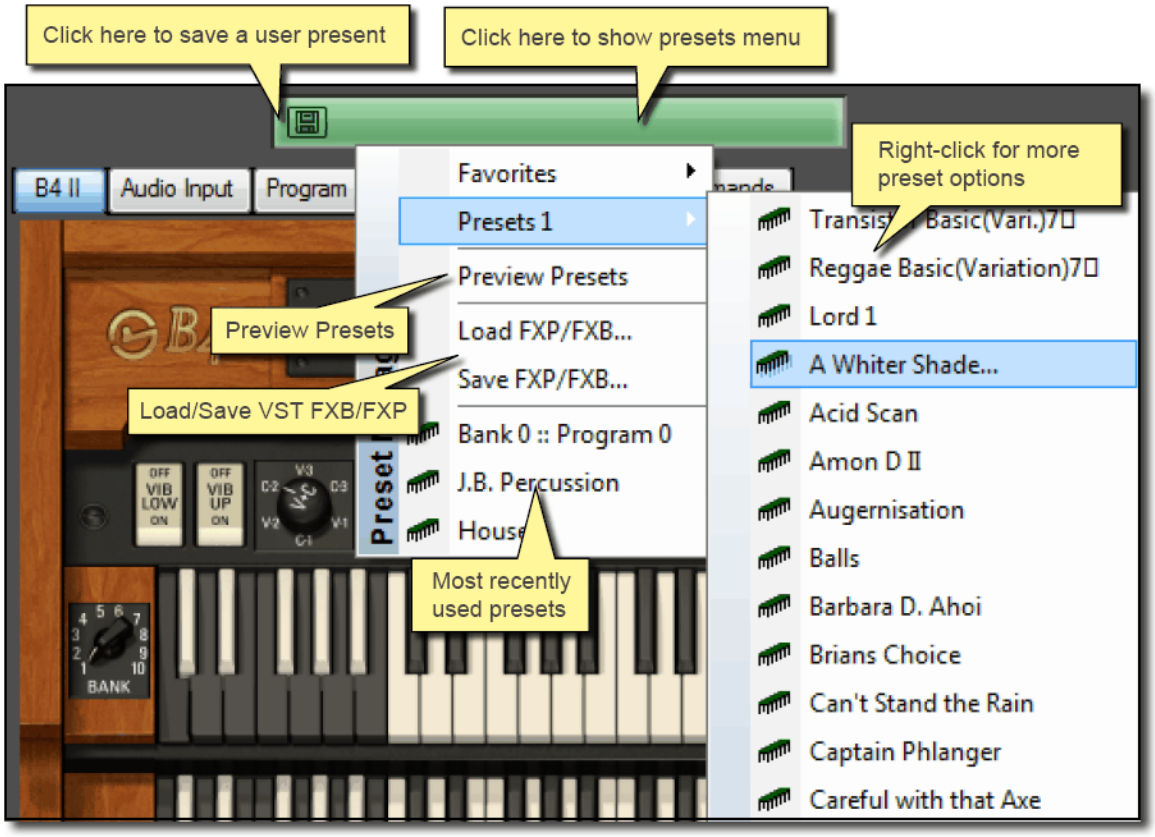

Selecting a Preset

Click the preset name bar and select the preset from the Favorites submenu, one of the Presets submenus or the MRU (most recently used) list. Each of the Preset submenus holds the available presets in alphabetical order.

Recently Used Presets

When you select a preset, it is added to the top of the recently used list and is easier to find and select the next time. The number of presets in the recently used list is configurable in Program Settings 110.

Favorite Presets

You can designate a preset a "favorite" with easy access via the Favorites submenu by right-clicking on the preset and selecting "Add to Favorites." You can remove a favorite by right-clicking the preset in the Favorites submenu and selecting "Remove from Favorites."

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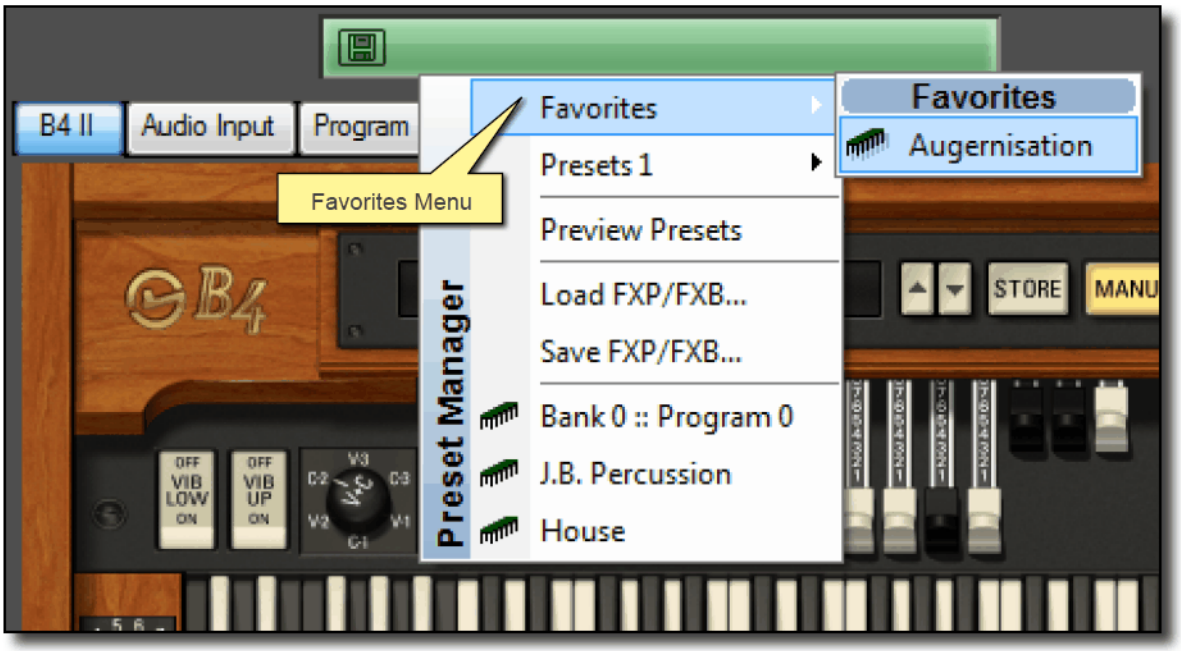

Preview Presets

Forte will automatically cycle through an instrument's presets, pausing for 10 seconds on each while you audition them. Press Continue to advance to the next preset before the 10 seconds is finished or Abort to stop previewing.

Creating a new User Preset

If you change the sound of an instrument preset, you may save this new version by clicking the Save User Preset button and providing a name in the preset name field.

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This preset is now available in the Presets submenus in alphabetical order and with "user" icon next to it. User presets may be added to the Favorites list just like any other preset.

Deleting a User Preset

You can delete a user preset by right-clicking on it in the submenus and selecting "Delete User Preset."

Assigning MIDI Presets to Specific Channels

If an instrument supports multi-channel operation, you may right click on a preset and assign it to any MIDI channel (1-16).

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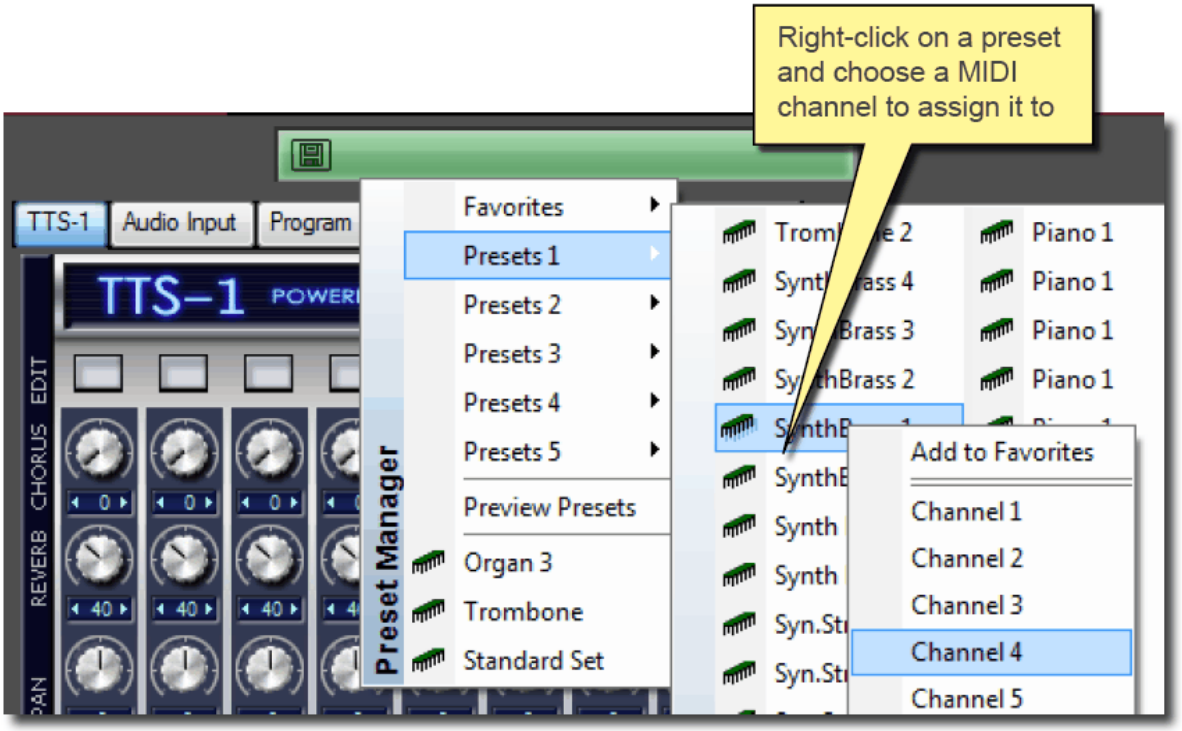

FXP/FXB Load/Save for VST Plugins

If the plugin being shown is a VST or VSTi plugin, two additional options appear in the preset manager menu:

- Load FXP/FXB: You may browse and load a standard VST FXP or FXB file into the plugin.
- Save FXP/FXB: Save the state of the plugin in a standard VST FXP or FXB file.

7.2.1 MIDI Program Map

Remapping or Disabling MIDI Program Changes

Incoming MIDI Program Changes may optionally be remapped or disabled. If remapping is on, the program change is remapped to a configurable list of presets. If remapping is off, the program change is sent directly to the instrument which may or may not respond by changing its internal preset. The list can be of any length up to 128 entries. Additionally, MIDI Program Changes can be ignored. When checked, program change messages are not remapped or passed to the instrument.

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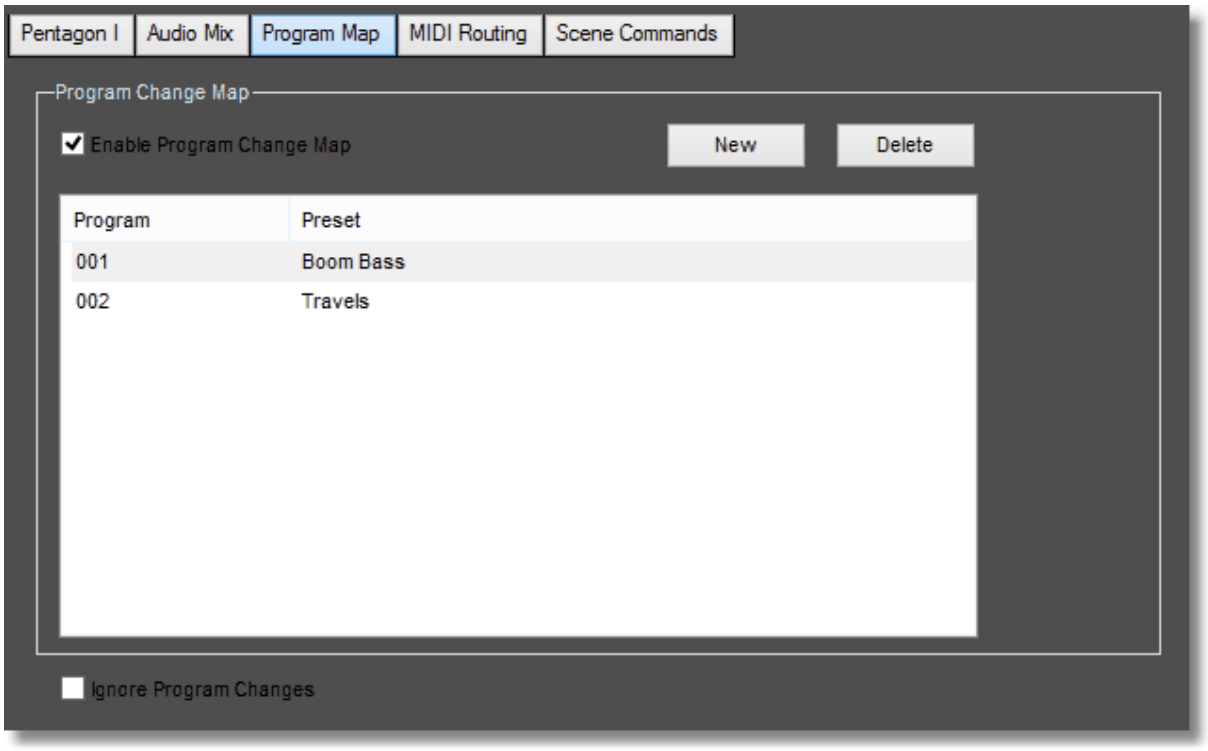

The remap algorithm is:

Output Program = Input Program MODULO Number of Entries

This means, for example, if there are 3 entries in the remap table:

Incoming MIDI Program Change	Remapped MIDI Program Change
0	1st entry
1	2nd entry
2	3rd entry
3	1st entry
4	2nd entry

To add a remap entry, press [New]. To delete a remap entry, highlight the entry in the list and press [Delete].

7.2.2 MIDI Routing

See Plugin MIDI Filtering and Automation 51.

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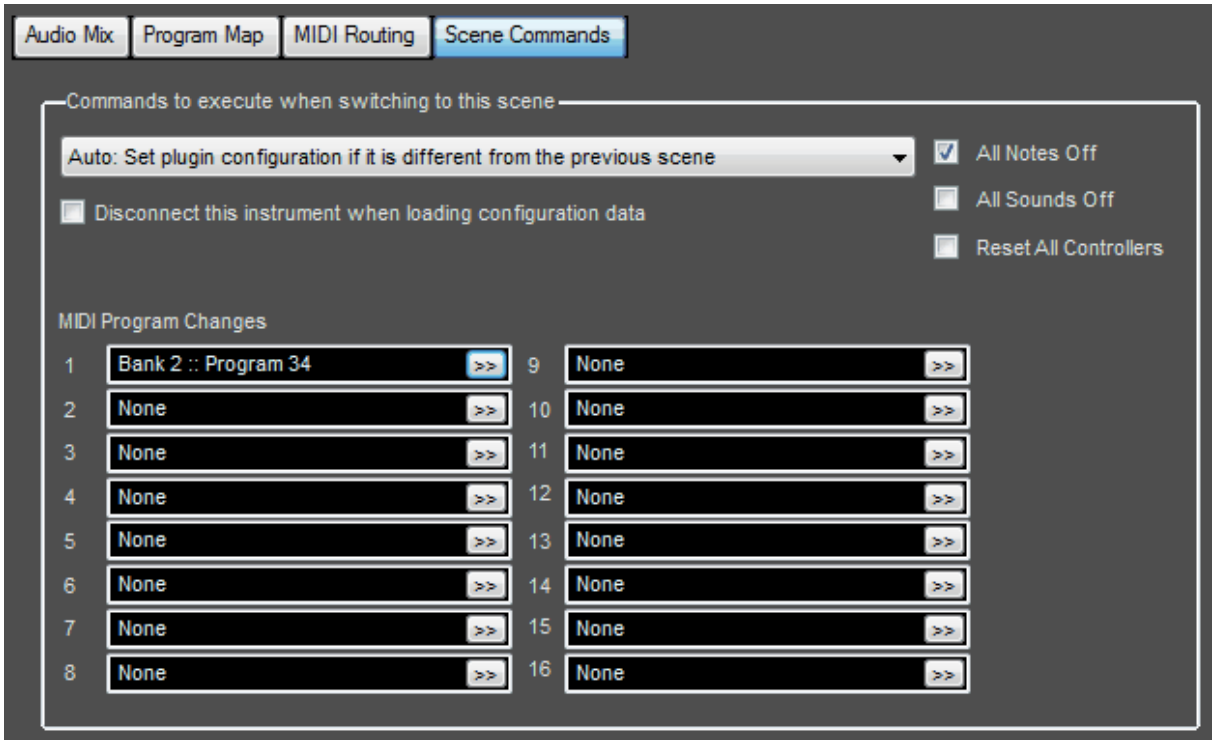
7.2.3 Scene Commands



Scene Change Tab on a plugin

Set Configuration Data (FXB, FXP, and/or DirectX Preset Data)

This option selects how configuration data is applied to the plugin:

- **Do not set per-Scene plugin configuration data** – when this is checked, data specific to each scene is not loaded into this instrument. Instead the instrument is loaded once with the configuration it held when the rack file was last saved and maintains that configuration across all scene changes in the rack. This is selected any time a plugin is loaded that appears on the scene skip list in Program Settings [110].
- **Auto: Set plugin configuration if it is different from the previous scene** – Forte tracks the data sent to a plugin and this option will only send configuration data if it is different than what was loaded by the previous scene. This can reduce scene change times by avoiding unnecessary operations. Note that Forte cannot know if you have manually changed the plugin's configuration; the comparison is only done between the data of the previous scene and the current scene.

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- **Yes: Set plugin configuration when changing to this scene** – load configuration data into the instrument when changing to this scene
- **No: Do not set plugin configuration when changing to this scene** – do not load configuration data into the instrument when changing to this scene.

Resets

- **Send all notes off to the instrument** – sends a note off for each playing note, plus the MIDI "All Notes Off" command on each channel.
- **Send all sounds off to the instrument** – sends MIDI "All Sounds Off" command on each channel.
- **Reset all controllers** – sends MIDI "Reset All Controllers" command on each channel.

Program Changes

This option enables you to send a program change to each MIDI channel. The menu has an option called "Program Change…" that enables you to enter the bank and program number manually. In the Enter Bank/Program dialog box, a button called "BankCalc" enables you to enter the bank number in MSB/LSB format for your convenience.

Held Notes over Scene Changes

With specific settings on the Scene Commands tab it is possible to hold notes over scene changes. This can only happen, however, if the MIDI filtering for the plugin is the same in the new scene as in the old scene. If the new MIDI filter is more restrictive (passes fewer notes or has a different transpose setting) the playing notes are forced off to avoid hanging notes.

Using Samplers with Scene Changes

Some plugins require a significant amount of time to process setting configuration data. Many of these are samplers which must load new sample sets into memory when configuration data is applied. Therefore to properly use plugins like this, you should configure them to "Set configuration data only if this is the first scene used", and use a combination of MIDI channel filtering and program changes when changing scenes to alter their sounds.

7.3 Audio Input and Mix

Audio inputs enables you to run audio from external sources through modules and buses. Audio inputs are available on any instrument module in the Audio Mix tab of the console.

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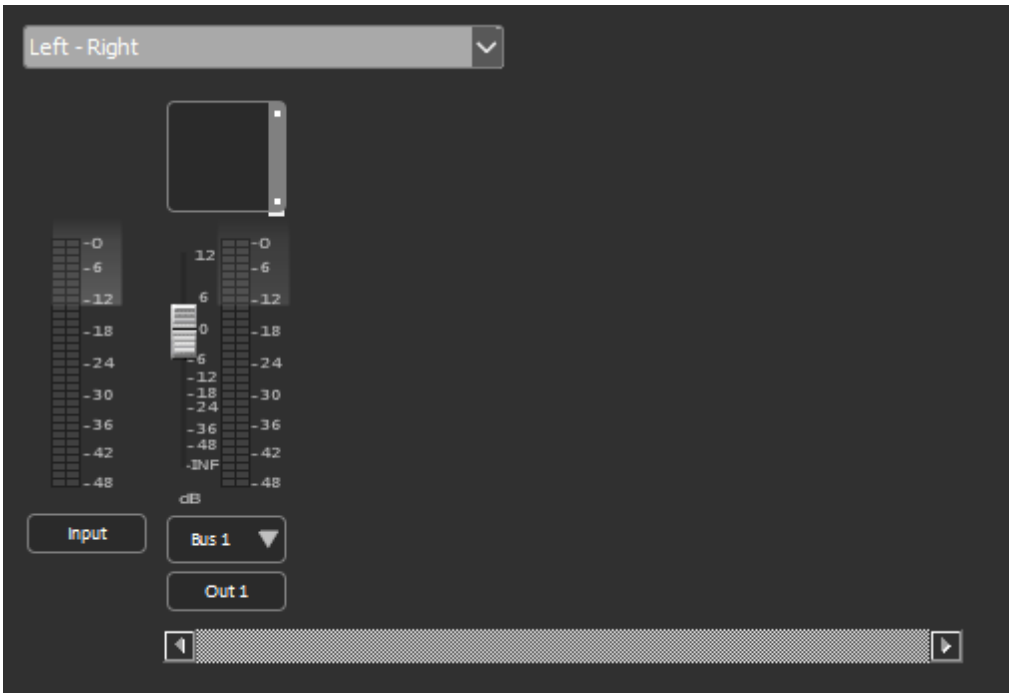

You may select the mono or stereo audio input source and monitor the input levels. Select "No Audio Input" from the input selection box to turn off audio input.

Although some instruments will process audio input, most will not. For this reason there is a special module you can create from the add module menus called 'brainspawn Audio Input'. This module is a module without an instrument. In the Audio Input module, the audio is sent directly from the input to the module's insert effects.

WARNING! Be very careful when using audio inputs that you do not accidentally enable an audio feedback loop! This may damage your audio equipment if volume is too high.

7.4 Insert Effects

Adding and Removing Effects

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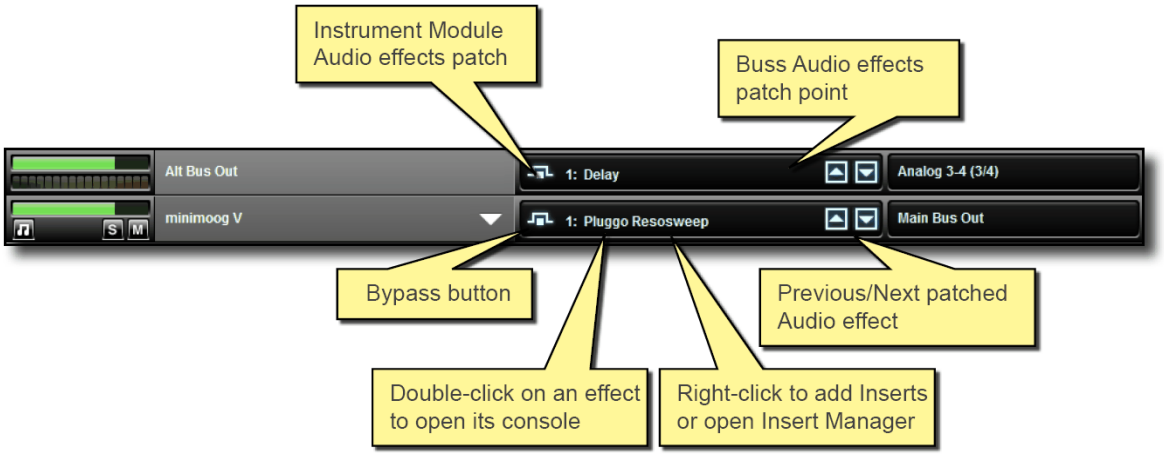

VST and DirectX audio effects may be inserted into either modules or output buses.

To insert an effect, right-click on an audio effects patch point shown above and select the DirectX effect from the pop-up menu.

To delete an effect, right-click on the effect you wish to remove and select "Remove Audio Effect" on the pop-up menu.

You can use the up/down arrows on the right to view different effects in the chain.

By right-clicking and opening the insert menu, you may right click on an effect and add it to your favorites, rename it or hide it.

Bypassing Effects

Effects may be bypassed either by clicking the bypass button in the instrument module or bus or by unchecking the "Active" column in the Insert Manager. Effects are bypassed independently for each scene, so you may use scene changes to switch effects in and out of an instrument module or bus.

Using Effect Presets

Accessing an Audio Effect Preset is identical to accessing instrument Presets.

MIDI Routing to Effects

MIDI input is sent to both instrument and bus insert effects. The filtering is identical to instruments. ***However, by default, all MIDI Input ports to inserts are disabled***. This is to avoid confusion. It is assumed that most MIDI input is to be directed at the instrument plugin, not the effects plugins. You may enable MIDI by opening the plugin console and editing the MIDI configuration. Also if you have Forte configured to automatically reload the last used MIDI configuration with the plugin, it may be inserted

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with whatever previous configuration you used.

Also note that ***MIDI Program Change messages are never sent to insert plugins***. This is to reduce cases where multiple effects plugins are inadvertently changing sounds when the user intents to change only the instrument.

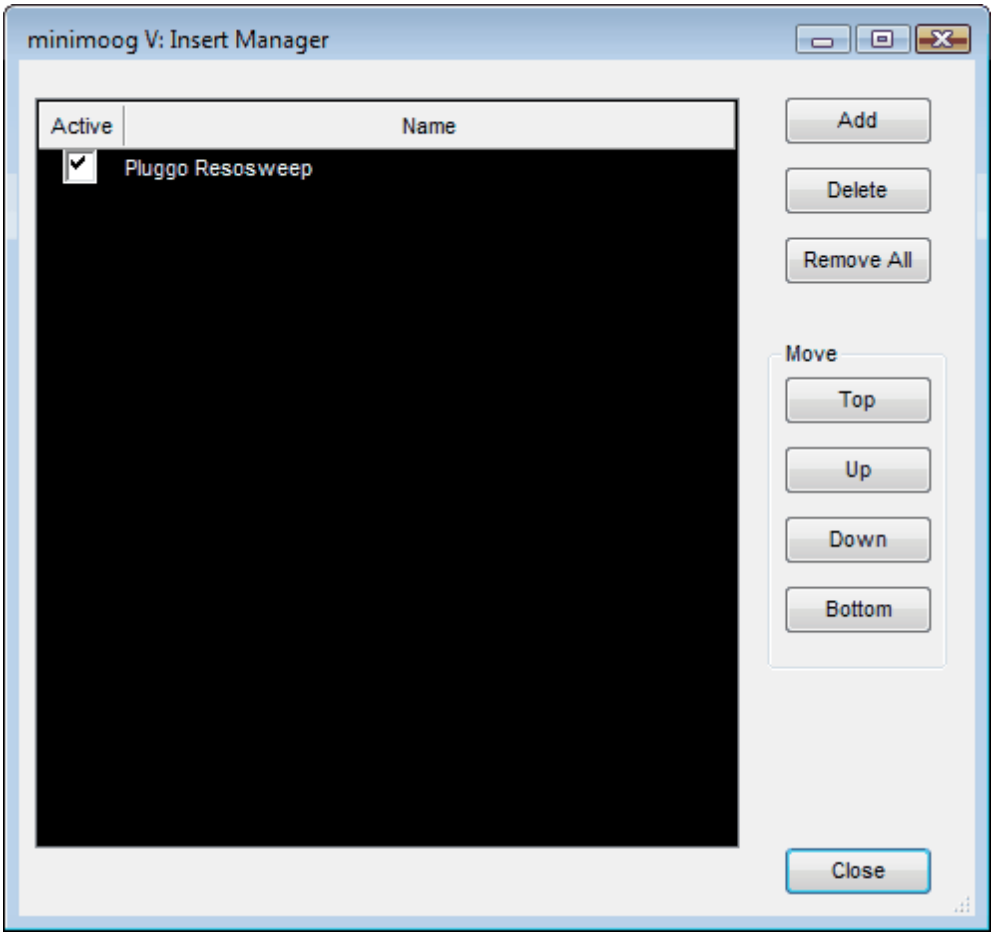
You can automate audio effects with MIDI the same way you automate instruments. Please refer to MIDI Filtering and Automation 51 for how to do this.

Scene Change Commands

In the Scene Commands tab, each scene can be configured to affect each insert effect plugin in a variety of ways. See Scene Commands 46 for more information.

7.4.1 Insert Manager

Right-click an effect and select Insert Manager to control the order of inserts at that patch point.



Insert Manager

The insert manager enables you to reorder, add, or remove insert effects plugins from the

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instrument module.

8 Plugin MIDI Filtering and Automation

Each plugin (both instruments and insert effects) contains a MIDI Routing map. The MIDI Routing map changes MIDI input events before they enter the plugin. Examples of routing and filtering include masking out MIDI input, re-channelizing it, layering across channels, limiting key ranges, transposing keys, and many advanced operations on MIDI CC events.

Key Points:

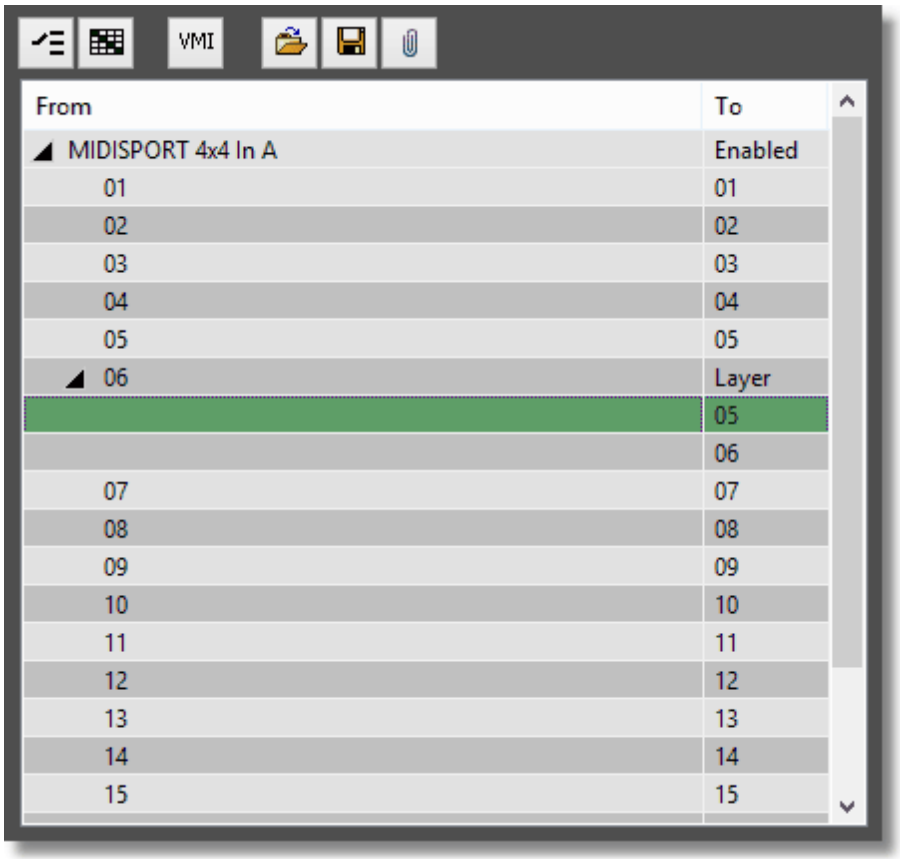
- **Each plugin has a full set of MIDI Routing options**
- **Each plugin's MIDI routing is independently configurable for each scene**

Opening the MIDI Routing View for a Plugin

Open the plugin console 39 for the plugin and select the MIDI Routing tab.

Port/Channel Routing and Layering

The MIDI Routing tab configures channel-specific MIDI input settings.



Each MIDI input port can be either enabled or disabled. If enabled, each input channel can

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be remapped and layered. In the above picture channel 6 is layered to channel 5 and channel 6. Each MIDI event (e.g. notes) on channel 6 is duplicated and sent to the instrument both on channel 5 and channel 6.

Right click a row in the To column to make changes to this mapping. Click the triangle icon to expand or collapse portions of the channel display.

Right click the To column on the port row to enable or disable the entire port, disable all its channels, reset channels to a 1-1 map (unity), or map all channels to channel 1.

For each MIDI input port and channel from/to pair you can independently configure:

- What MIDI note ranges a instrument will respond to (splits and layers configuration)
- How incoming MIDI notes will be transposed (after note range filtering)
- How incoming MIDI continuous controller data is remapped to different controller numbers.

Quick MIDI Routing

Use the Quick MIDI Routing button to quickly set up basic channel routing.

The menu item "Full Reset" resets all port mappings and then applies the selected port/channel. The menu item "Port Reset" only changes the port selected while leaving other ports unaffected.

Advanced MIDI Channel Routing

Use the Advanced MIDI Channel Routing dialog to configure channel from/to pairs using a convenient matrix view:

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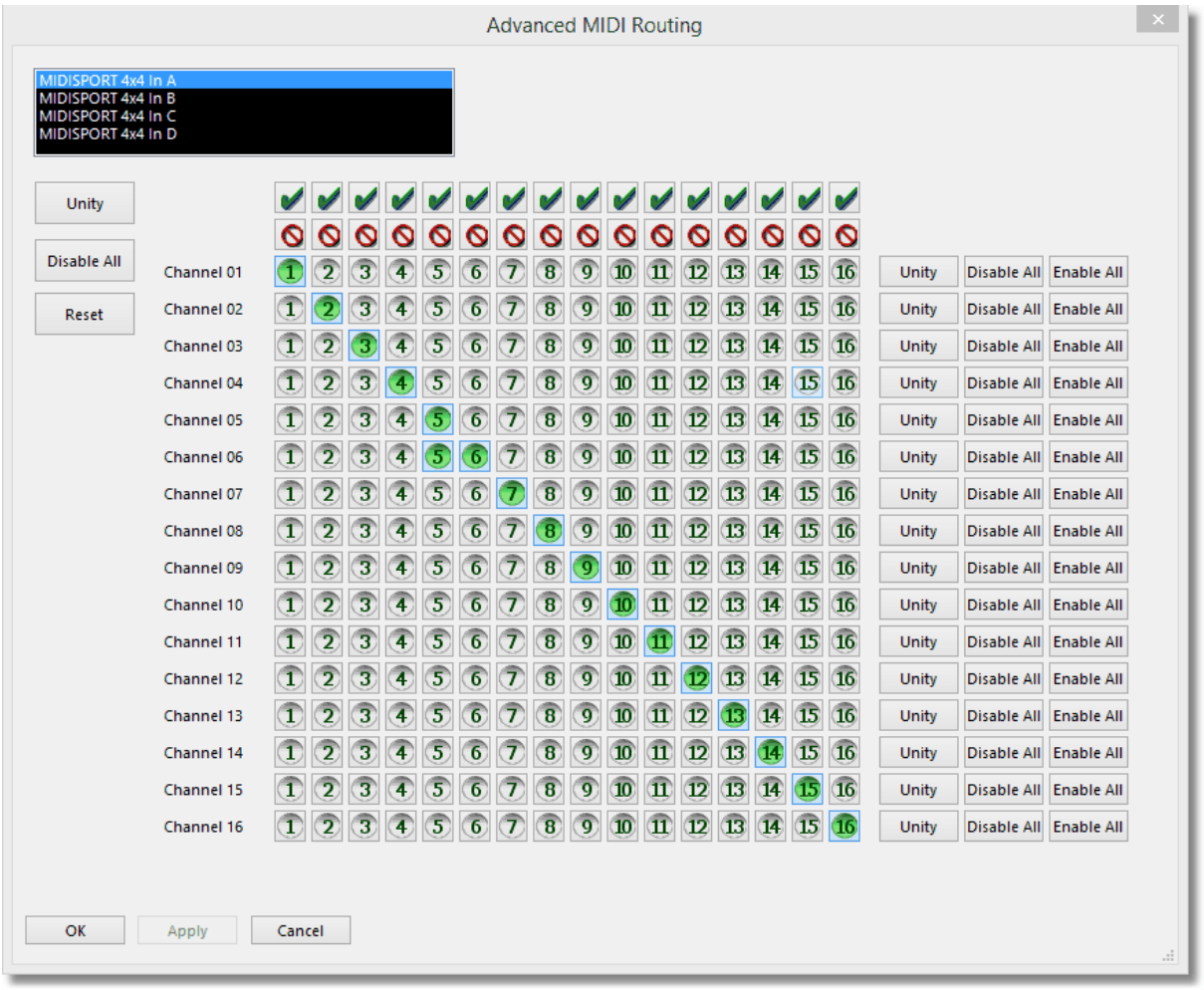

Configuring MIDI Ports

Right click on a MIDI port to alter how events are filtered for this plugin.

- Copy/Paste enables you to copy the MIDI routing for one port to another
- Copy to all ports on this plugin enables you to duplicate the configuration of one port to all ports on this plugin only.
- Copy port to all scenes copies the port configuration to all other scenes for this plugin and this port

VMI Configuring Plugins to Output MIDI to Other Plugins (Virtual MIDI Input)

See Using MIDI Out from Plugins 58

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Saving and Using MIDI Routing Presets

Click Save to save the MIDI Routing of the currently selected port.
Clock Open/Load to load a MIDI Routing into the currently selected port.

Press Save to save a configuration. This includes for each MIDI input:

- Key Range
- Transpose
- Channel remap
- Controller remap

This enables frequently used MIDI configuration parameters to be applied to other Instrument Modules or stored for future use. When a MIDI Configuration is loaded you may optionally load or ignore specific portions of the configuration.

Tip: Each MIDI Configuration file stores information about a single MIDI port. If you save a file, it will reflect the configuration of the currently selected port (if a channel from/to pair is selected beneath it, it will still save the parent port info.) When you load a MIDI Configuration file, it is loaded into the current port. This makes it useful to save MIDI Configuration files that are "device-specific" because devices are attached to ports.

Setting the Default MIDI Routing for a Plugin

A last-used MIDI configuration is always saved with an Instrument Module. Usually, this MIDI configuration will be reloaded automatically on any future Instrument Module using the same instrument. However, if you select a MIDI configuration to be the default, it will be used instead. This 'paperclip' icon will be displayed with a green color if a default exists for this instrument module. Double clicking the button erases any existing default.

8.1 Key Range and Transpose

You may configure an instrument to respond to only a subset of the entire 128 note MIDI keyboard. To do this, select the port and from/to channel pair in the left column, then click the mouse in the keyboard graphic. The disabled upper and lower ranges will be displayed in grey.

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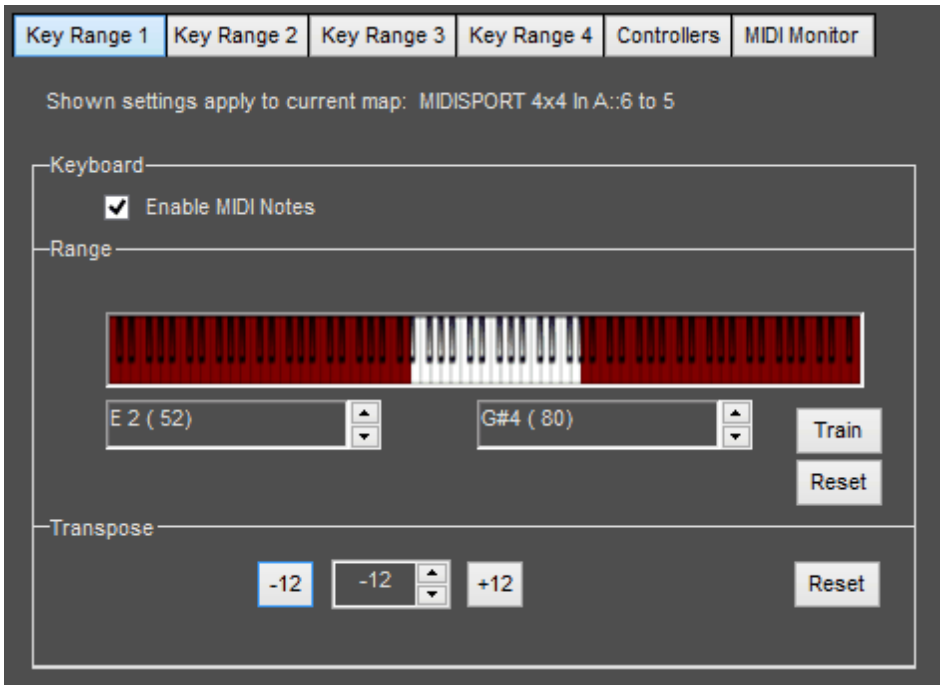

There are for independent key range and transpose tabs, enabling you to do advanced things like automatically playing a chord, or leaving dead spaces in the middle of a keyboard.

You may change the upper and lower ranges a note at a time by clicking the up/down arrow buttons for each. The MIDI keys that lie within the enabled range are then transposed by the amount shown in the transpose box.

Training is a convenient way to automatically set the upper and lower ranges. Press [Train] and a message will show "Training…" Now simply press two notes (simultaneously or one after another) on your MIDI input device. The instrument module must not be muted, and the rack power must be on for training to succeed.

Press Reset to enable the entire keyboard.

IMPORTANT: Key Range and Transpose are channel-routing specific. You will have as many ranges and transpose settings as you have channel mappings. Be sure to select the desired channel mapping on the left before altering the key range and transpose.

8.2 MIDI Controller Mapping

Incoming MIDI continuous controller data may be remapped to a different controller number, layered to multiple controllers, or disabled.

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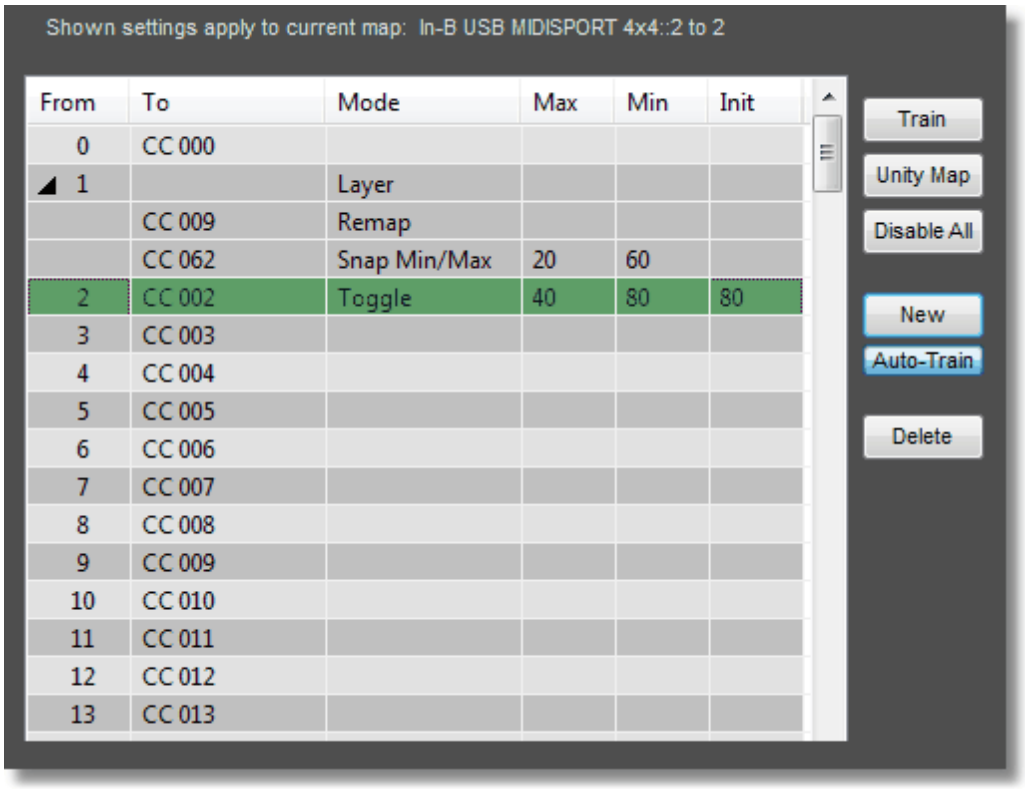

Each MIDI controller can be enabled, disabled, remapped, layered, toggled, or rescaled. In the above picture:

- CC 0 is mapped straight through to CC 0
- CC 1 is layered to CC 9 and CC 62
  - The CC62 mapping snaps to 20 and 60 and will generate no values in between
- CC 2 is configured to toggle between 40 and 80 (starting at 80) whenever CC2 = 128

Right click a row in the To column to make changes to this mapping. Click the triangle icon to expand or collapse portions of the channel display.

Right click the Mode colume to change Toggle modes. Click in the 0 and 127 columns to set linear rescaling values.

Training is a convenient way to automatically set the "from" field without having to consult your MIDI controller configuration. Select a "from" field, press [Train] and the field will change to "Training…". Now simply change a controller on your MIDI input device and the field will automatically change to the controller number you sent. The Instrument Module must not be muted and the rack power must be on for training to succeed. If the [Auto-Train] button is on when [New] is pressed, training will be started automatically.

You must manually select the "to" field. Some instruments provide a comprehensive list of MIDI controllers which will be shown in the "to" field. Many, unfortunately, do not and you must consult the instrument manual and select a numerical field.

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IMPORTANT: CC remapping and layering are channel routing-specific. You will have as many CC remap settings as you have channel mappings. Be sure to select the desired channel mapping on the left before altering the CC remap.

Mode, Minimum Maximum, and Initial Value

Each CC remapping can be set up to assume an initial value on scene load and scale between a minimum and maximum value.

- **Init** – If supplied, the CC value is transmitted to the plugin when the scene is applied. This is a way to set up initial controller values for future manipulation. If Init is blank, no initial value is sent.
- **Min/Max** – When an input CC value is remapped, incoming values are rescaled between the Min and Max values. For instance, if Min = 30, and Max = 60, then incoming values of 0-127 would be rescaled to 30-60. If Max is less than Min, the scaling works in reverse. For instance, if Max = 30, and Min = 60, thenincoming values of 0-127 would be rescaled to 60-30.

Toggle Mode

Toggle Mode configures a controller mapping to toggle the between two values each time a controller transmits a value of 127. This feature enables you to assign MIDI foot switches to features on the instrument like an organ's rotary speed: Step on the pedal once to slow the rotors down and step again to speed them up. Toggle mode is configured with a maximum and minimum value to toggle between. When the MIDI configuration is applied on scene change, the maximum value of the toggle is sent to the instrument. Further incoming
trigger values of 127 cause the toggle to toggle between the minimum and maximum values.

Snap Mode

Snap mode configures a controller mapping to snap between the minimum and maximum value (0 and 127 by default) based upon the input CC value. 0-63 snaps to the minimum and 64-127 snaps to the maximum value.

8.3 Merging MIDI Input Filters

You may merge the attributes of a MIDI input port filter into another port by right clicking on a port name in the MIDI Routing tab of a plugin. The dialog box enables you to configure various attributes to copy or skip.

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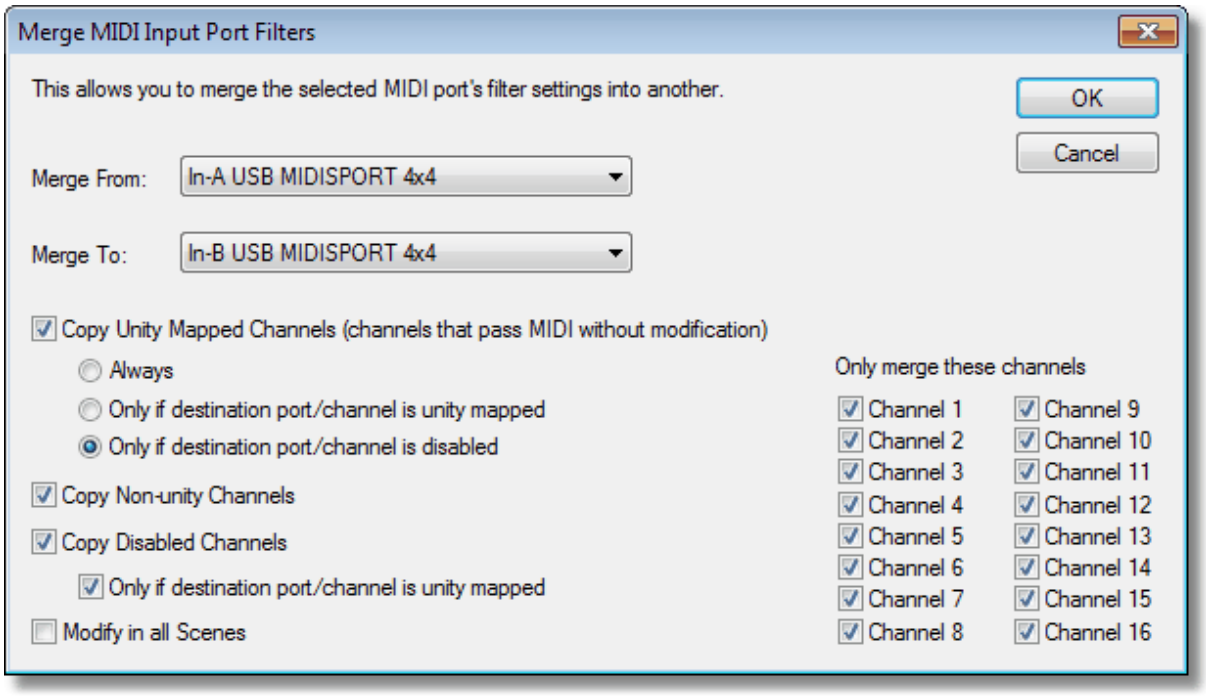
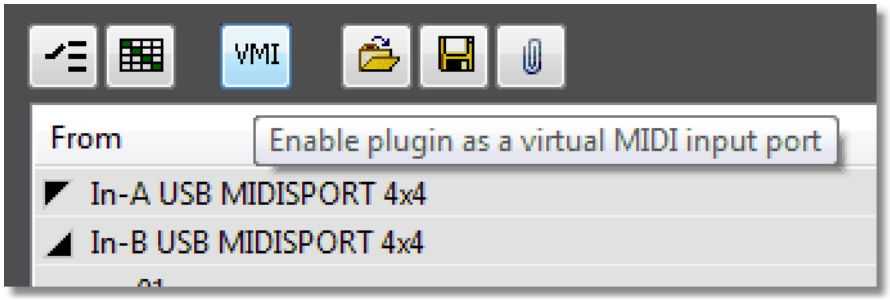


8.4 Using MIDI Out from Plugins

VMI (Virtual MIDI Input) configures a plugin to appear to the rest of the rack as a virtual MIDI input port. This is a way to utilize MIDI events produced by plugins. If you press VMI for a plugin, a new MIDI port is created for all other plugins in the rack. This new port is disabled by default but can be configured exactly like any other MIDI port. Be careful not to enable a plugin to receive its own MIDI output if there is any chance it will simply echo that output. This would set up a feedback loop of MIDI events.



9 Scenes, Songs, and Setlists

Forte's most defining feature is the ability to organize plugins for performance. Organizing plugin settings into repeatable sets of sounds is what sets Forte apart from Digital Audio Workstations.

The most basic unit of performance is a "**scene**." A scene is created as a snapshot of the

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current rack at a particular point in time. See What's in a Scene. [61]

Note that the Program Change remap is not included in a Scene. Scenes may be optionally changed using incoming MIDI program changes. When this feature is enabled, MIDI Program Remap does not work because the program change messages are used to change scenes instead of being remapped and sent to the instruments.

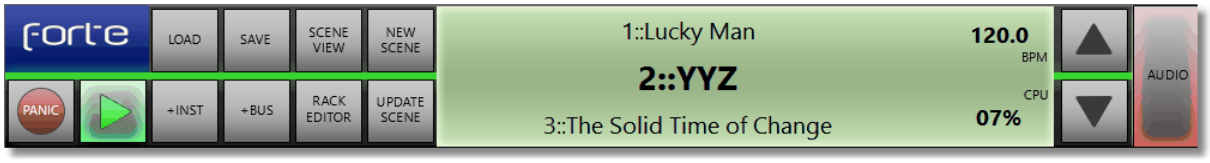
How Rack Changes Affect Scenes

- It is likely that you will add or remove modules, buses, or effects from your rack after you have created some scenes. When a Scene is used:
- Any new Instrument Module the scene does not recognize will be muted. This is to preserve as much as possible the sound that was generated by the scene. To integrate the sound of the new module into a scene, unmute and configure it and then update the scene in the Setlist Manager, or by pressing [CTRL]+[U].
- Any new Audio Effect the scene does not recognize will be placed into the bypass state.
- If modules or effects have been removed, the scene will skip them and silently update itself to remove the unused data. This will happen even if the scene is protected in the Setlist Manager.

Managing Scenes and Building Sets

See Setlist and Scenes Editor [75] for details on how to manage scenes, songs, and setlists.

9.1 Basic Scene Operations: Create/Update/Rename/Use/Delete



Creating Scenes [NEW SCENE]

Scenes can be created by clicking the NEW SCENE button to the left of the scene list on the Control Module. The new scene will be given a name that represents the time and date the scene was created. Scenes can also be created from within the Scene and Set Manager [75].

Updating Scenes [UPDATE SCENE]

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Scenes are snapshots in time of the rack file. Later changes to the rack do not automatically update a scene. In order to update a scene you must update the scene which is the same as taking a new snapshot. To do this, press the UPDATE SCENE button.

Renaming Scenes

You may rename a scene on the Control Module by right clicking on the scene and selecting Rename Scene from the menu. You may also rename scenes from within the Scene and Set Manager[75].

Switching Scenes

Once multiple scenes are created, you may switch between them in several ways. From the Console, you may press the Up or Down arrow buttons to the right of the scene list. You may also:

- Press the space bar to advance to the next scene
- Move to a specific scene by pressing a shortcut key you have assigned to that scene.
- Pressing control buttons on configured Control Surfaces[115]
- From MIDI automation defined in Global MIDI Automation[78].

Deleting Scenes

You may rename a scene on the Control Module by right clicking on the scene and selecting Delete Scene from the menu. You may also delete scenes from within the Scene and Set Manager[75].

9.2 Songs and Setlists

Forte enables you to further organize your rack for performance beyond defining individual scenes. Forte also defines Songs and Setlists.

A **Song** is an ordered list of scenes. This enables you to re-use scenes in different songs, reducing the burden of maintaining separate duplicate scenes.

A **Setlist** is an ordered list of songs.

Using Setlists, you can build sets from songs, each containing scenes and you can rapidly alter a set by simply altering the set list by moving, adding, or removing songs.

See Setlist and Scenes Editor[75] for more details. Also see Different Ways to Use Scenes, Songs, and Sets[62] for hints on how to use songs and sets effectively.

Song and Set Transpose

Songs and Sets may contain customized transpose settings enabling you to conveniently transpose entire sets or individual songs or scenes up or down. See Transpose[64] for details.

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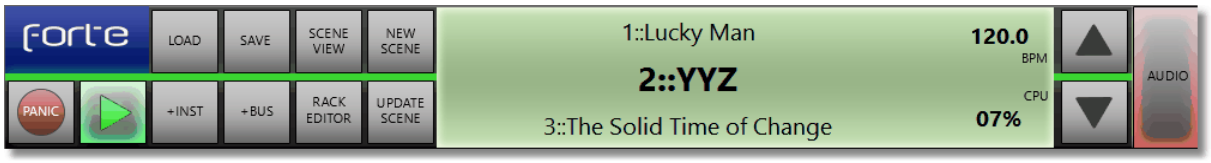
9.3 What's in a Scene?

A scene is a basic building block of a Forte rack file.



A Scene contains:

Chk/Or	Lock	Refs	Transp	Sync/BPM	Play/Start Bar:Beat	Rewir	Meter	Fade(ms)	Scene Name	Description
☑ 1	☐	0	0	☐ 120	☑ 1:1	☑	4/4	0	My Scene	funky clav sounds

Most scene attributes are adjustable in the Setlist and Scenes Editor[75]. Plugin data is adjustable by altering the plugin's user interface and updating the scene.

Name and Description

The Name is the primary name of the scene. The Description is intended to be a user defined area to describe the scene.

Check/Lock

- Scenes can be checked or unchecked. A special setlist includes only checked scenes.
- The lock check protects a scene against accidental update.

Transport Play/Stop/Rewind State

Even though Forte is not a sequencer, many virtual instruments and effects depend upon host transport control to control drum machine patterns and arpeggiators. For this reason, Forte features a transport-like functions per scene as well as a PLAY/STOP button.

Play/Stop

Each Scene may have the transport in either the Play state or the Stop state. This means you can stop and start drum machines on scene change. When play starts, Forte reports a start position determined in the scene. If you stop and restart the play button, the position will either continue or be reset to the start time depending upon how the scene is set up.

- Press the PLAY button on the Control Model to Play/Stop the transport.
- Press the PANIC button on the Control Model send all notes off to all plugins and reset the MIDI input ports.

Rewind on Play/Stop

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A scene can be set up to either rewind the transport on play or stop, or leave the play position where it is stopped. On Rewind the transport returns to the Start Bar:Beat position. By default a scene has Rewind enabled.

Time Signature and Start Bar:Beat

A Scene contains a configurable time signature and a start bar:beat. The start bar:beat is set when the scene is switched to and if rewind is enabled, start bar:beat is returned to on Play or Stop. By default a scene has a 4/4 time signature and a start bar:beat of 0:0.

Current Tempo and MIDI Sync Follow

Each scene can contain a tempo instruments and effects can sync to. In addition, you may optionally choose to have Forte adjust the tempo dynamically from incoming MIDI Clock messages from a chosen MIDI input port. Select the MIDI input port and responsiveness in the Global MIDI Automation 78 display.

Transpose Amount

Forte includes several ways to transpose a performance up or down by scene, song, or set. See Scene and Set Manager 75 and Transpose 64 for more details.

Image Cue

An image cue 69 can be attached to a scene. SceneView will display this image when the scene is used.

Plugin State

For each plugin in the rack:

- Plugin configuration
- MIDI Routing 51
- Scene Commands 46
- Audio Mix 47

9.4 Different Ways to Use Scenes, Songs, and Sets

The Scene/Song/Set system is flexible enough to use in many different ways. Here are some common ways musicians use them.

Scenes are Songs

The most basic method of using scenes is to create a scene for each song you wish to play. Name the scene after the song and order them as desired in the scene list. In this mode, the Set Manager us configured to use either "all scenes" or "selected scenes" sets. As an example:

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001: Long Distance
002: Hotel California
003: Tom Sawyer
....etc...

Advancing through the scenes changes the setup for each song in the set.

Songs with Multiple Scenes

What happens if you have a song setup that is complicated enough that you want to change your setup in the middle of a song? At this point, you may define some songs and add the various scenes to the song. You then must define one or more sets to add the songs into. For example:

Friday Night Set
Long Distance
001 LD Part 1
002 LD Part 2
Hotel California
003 HC Part 1
004 HC Part 2

Unfortunately this leads to many scenes, awkward scene naming, and perhaps duplicated setups, so you may wish to use the same scenes over again:

Songs with Reused Scenes

Friday Night Set
Long Distance
001 Rich Piano
002 Dirty Organ
Hotel California
003 Dirty Organ
004 Rich Piano

Where "Rich Piano" and "Dirty Organ" are the same scenes reused in two different songs. This reduces rack size and complexity because you have fewer scenes to manage. Unfortunately, it doesn't provide much useful musical cue information because the scene names have no context within the song. Cue notes 69 to the rescue....

Songs with Cue Notes on Scene Names

Once a scene is added to a song, you may rename it in place in the Set Manager. This doesn't actually change the scene's name, but assigns a "cue note" to the scene that only applies to the scene in that song.

Friday Night Set
Long Distance

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001 ***Section A*** Rich Piano
002 ***Section B*** Dirty Organ
Hotel California
003 ***Intro*** Dirty Organ
004 **Bridge** Rich Piano

Scene Naming with the Pipe ("|") character

Some users prefer to build the song names into the scene names in order to distinguish, for instance, the intro to one song vs. the intro to another song. If the scene's name is of the form <song>|<scene> (a song name, a pipe character, and the rest of the scene name) and the song part of the name matches the song the scene is in, the song and pipe character will be omitted when displayed.

9.5 Transpose

Forte features a flexible set of transposition features that enable you to make transpose choices in several ways:

1. Each plugin's per-scene MIDI filter contains a transpose value in half-steps
2. A scene can have a transpose value that affects all incoming MIDI notes
3. A song can also have a transpose value that affects all scenes in the song
4. A set can have a transpose value that affects all songs in the set

The transposition is cumulative. This means you can define transpose at any of the above layers and the effective transpose will be the sum of all. This also means you can use the same scene multiple times in different songs, and have different transposition in each.

9.6 Managing Scenes

Scenes can be edited and organized in the Rack Editor 75.

9.7 Import Scenes and Songs

Select "Import Songs or Scenes" from the File menu to move songs or scenes from another rack file into the current one. You can choose which rack file and which songs or scenes to import.

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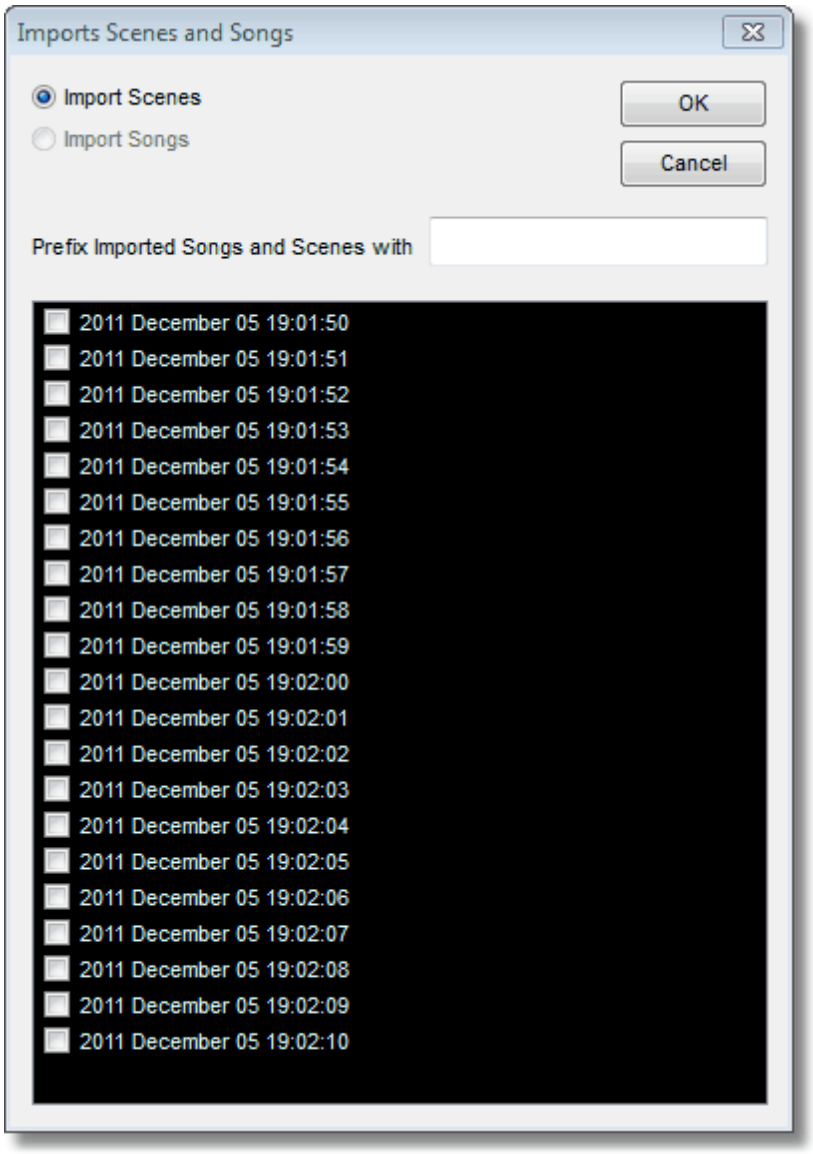

Forte will import the scenes using the following rules:

- If forte can adapt an existing bus for use with the new scene it will by adding insert plugins. These plugins are bypassed by default in the other existing scenes.
- If forte can adapt an existing instrument module (the imported scene has the same instrument) it will add insert plugins as necessary.

Forte will attempt to match existing buses, scenes, and insert plugin chains as much as possible. There is no user interface to guide this process, so make sure you are working

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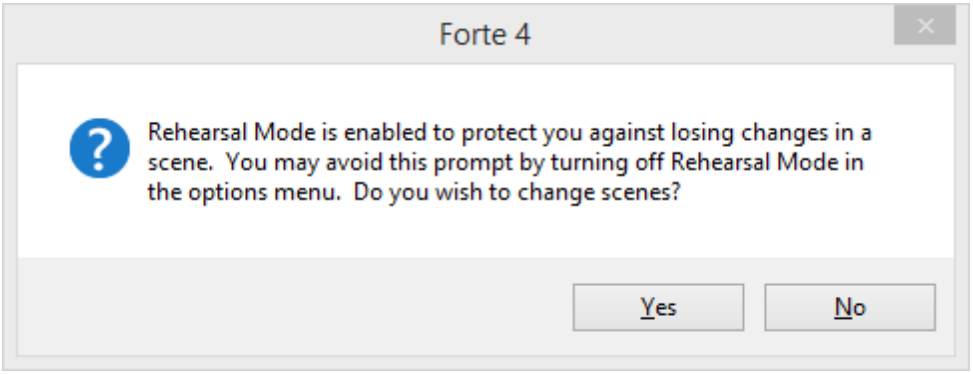
with a backed-up file in case you do not like the results.

You may prefix the imported songs or scenes with text if you prefer.

9.8 Rehearsal Mode

Because scenes are "snapshots" of the rack at a moment in time, they cannot be edited "live". If you alter something and then re-apply the scene, those changes will be lost unless you enable Rehearsal Mode in the Options menu. Rehearsal Mode prevents inadvertent scene changes by prompting you to confirm your intent to change scenes.


Forte 4
Rehearsal Mode is enabled to protect you against losing changes in a scene. You may avoid this prompt by turning off Rehearsal Mode in the options menu. Do you wish to change scenes?
Yes
No

Options|Rehearsal Mode is a special mode that helps you avoid losing changes to a scene before updating it. If this option is enabled, any scene change will result in this prompt. You have the opportunity here to cancel the scene change, then you can update the scene to save changes.

10 SceneView

SceneView is a full-screen touch-enabled display that shows critical performance information. Show SceneView by pressing the SCENE VIEW button on the Control Module or by selecting View|SceneView in the menu. Exit SceneView by pressing the HIDE button in the upper right corner.

Tip: SceneView is optimized to be the primary performance time display.

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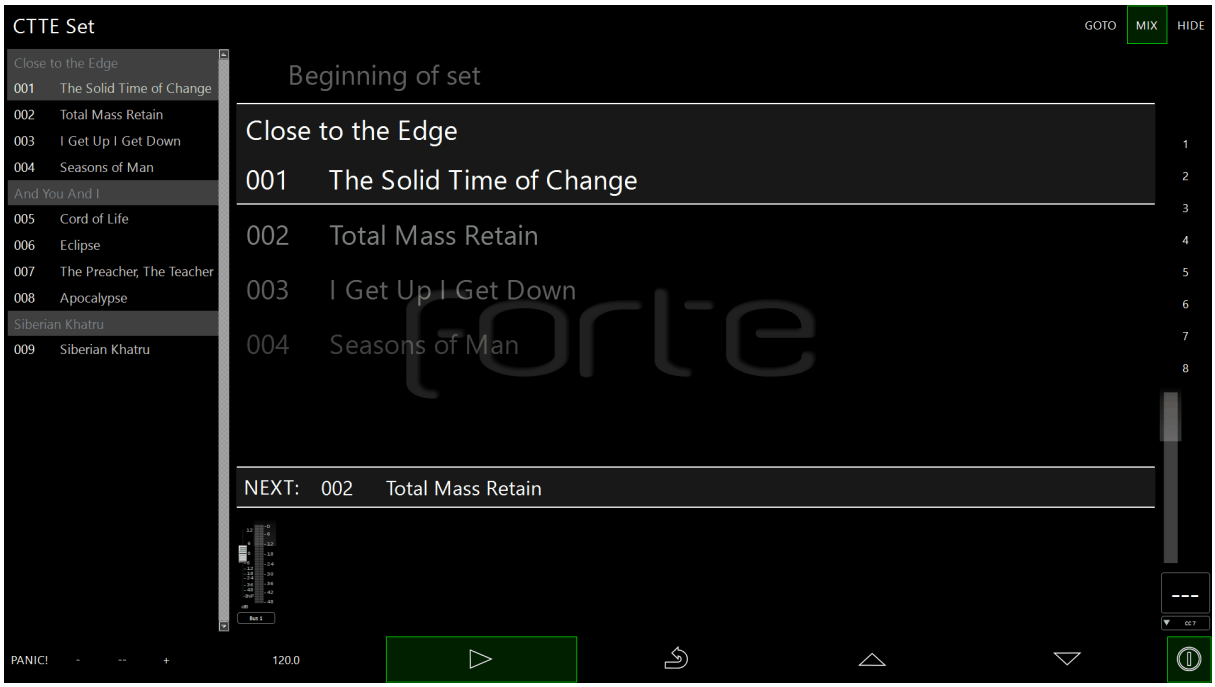

SceneView

Display Reference

SceneView has a number of displayable elements that can be shown or hidden in SceneView Options[111].

- **Full Scene List (Left)** - A list of the entire set organized by song. Click on any item to switch to that scene.
- **Performance Control Buttons (Bottom):**
  - Panic - stop all MIDI
  - Dynamic Transpose - Press - to transpose down a half step, + to transpose up a half step, and the tranpose value to reset to 0
  - Tempo - Tap repeatedly to set a new tempo
  - Play - press to play or stop the transport
  - Undo Scene Change, Previous Scene, Next Scene - change scenes
  - Rack Power - press to stop/restart audio streaming
- **Upcoming Scenes (Middle)** - Displays a list of the next few upcoming scenes in large font
- **Meter Bridge (Bottom)** - Displays the audio levels of each bus and faders to adjust the bus mix.
- **MIDI Meter (Right)** - Displays the current value of the assigned MIDI Controller. Click the combo box indicator to assign a controller to meter.
- **Quick Access Scene Buttons (Right)** - Press one of these 8 buttons to quickly insert one of the predefined Quick Access Scenes into the current set and switch to it. See Scene and Set Manager[75] for help on defining Quick Access Scenes.
- **Title (Top)** - Displays the Set name if using songs and sets or displays the rack name otherwise.

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- **MIX Button** (Top) - Hide/Show the Meter Bridge
- **GOTO Button** (Top) - show the Set Browser[70] to select a scene to change to
- **Next Scene Hint (Bottom)** - Displays the name of the next scene in the set

Selecting Songs and Scenes in SceneView

There are several ways to select scenes in SceneView

- Press the space bar or assigned shortcut key[127]
- Use Global MIDI Automation[78] or a Control Surface[85] to change scenes remotely from a MIDI controller
- Click a scene in the Full Scene List on the left side
- Click Next or Previous Performance Control Buttons on the bottom
- Click Undo Scene Change Performance Control Button to return to the previously used scene
- Click a Quick Access Scene Button to select one of up to 8 scenes defined in the Setlist and Scenes editor[75].
- Right click anywhere in SceneView to get a menu of songs in the setlist. Select any set item to jump to that location in the set.

Using Image Cues in SceneView

Scenes and Songs can have image cues attached to them. An image cue displays an image in the SceneView background for use as a prompt. It is often used for lyrics or even sheet music scans. See Image Cues[69] for details.

Dynamic Transpose in SceneView

New "+" and "-" buttons on the bottom of SceneView enable you to dynamically transpose the entire set up or down in half-steps. This transpose setting is not saved. Instead it is intended to be a quick way to change keys. Click the transpose value button quickly to reset transpose to 0. Dynamic Transpose can also be automated with Global MIDI Automation[78].

Adding Scenes into the Current Set in SceneView

Right click on the SceneView to show a menu. Select "Insert Scene Into Current Set" to add any scene in the rack into the next set position. This does not permanently alter the set list, but is a quick way to add a scene temporarily.

Adjusting the Bus Mix in SceneView

The faders on the bus meter bridge alter the bus volume separately from the bus levels defined in each scene. These adjustment levels are saved globally in the rack file and can be used to fine tune a mix without changing each scene.

Touch Mode

If Touch Mode is enabled in Program Settings (General Options), the Full Scene List can be

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navigated using touch gestures (swipe scrolling). Otherwise, it uses scrollbar gestures.

Customizing the Appearance of SceneView

SceneView elements such as the scene list, Quick Scene buttons, meter bridge and other buttons may be shown or hidden in SceneView Options 111.

SceneView can also be locked to a second monitor in Options.

SceneView is "stylable" using Qt-compatible stylesheet syntax. In SceneView Options 111 you can specify an alternate .css file to style the controls. Two example files are installed by default in the Forte installation folder: SceneView Default Style.css and SceneView Dim Red Style.css. You can use these examples to create your own styles but style sheet creation assistance is not available from Brainspawn support. This is an advanced user topic for those familiar with style sheets.

10.1 Image Cues and Cue Notes

Image Cues and Cue Notes help you organize your sets' descriptive text and visual images, and are displayed in SceneView 66.

Image Cues

Image Cues can be attached to scenes, entire songs, as well as individual set list elements (scenes with a song). This means that you can use the same image cues across all scenes in a song or use different images for each scene in a song and reuse scenes in other songs with different images. Image Cues are managed in the Setlist and Scenes Editor 75.

When the setlist is advanced, there is a priority for determining which image is shown in SceneView:

1. The song item image cue
2. The scene image cue (the image that was supported in prior versions of Forte)
3. The song image cue

The purpose of image cue is to enable you to display customized content in SceneView such as graphics, scanned sheet music, or lyrics.

NOTE that when combined with the “cue note” feature (the ability to use a custom name for a scene within a song) this feature enables full customization of the set list with full reuse of scenes. Scenes can be named after sounds or rig configurations, while the cue notes and images can define portions of a song.

Cue Notes

Cue notes are customized text that apply only to a scene within a particular song. Once a scene is added to a song, you may add a cue note to it by double clicking on the scene in the song list. This doesn't change the scene's name, but assigns a "cue note" to the scene that only applies to the scene in that song. The cue notes is displayed before the scene name in SceneView. For example, a Scene named "Rich Piano" may be added to a song called "Long Distance" and a cue note "Section A" added. The resulting set item looks like

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this in SceneView:

Friday Night Set
Long Distance
001 ***Section A*** Rich Piano
002 ***Section B*** Dirty Organ
Hotel California
003 ***Intro*** Dirty Organ
004 **Bridge** Rich Piano

The purpose of cue notes is to enable you to tag a scene changes to something in the set like "Measure 24" or "Section B". It can also hold reminder prompts like "reset transpose".

10.2 Set Browser

The Set Browser is a display for selecting a portion of the set to move directly to.

GOTO Button in SceneView

The GOTO button in SceneView opens the Set Browser with a list of the entire setlist. Select a scene and and Forte will advance or go back to that set item. The display is optimized for touch and swipe scrolling. The display will automatically cancel and close after 10 seconds without a selection made.

MOVE TO SCENE IN SET
SELECT
CANCEL
000: Close to the Edge: The Solid Time of Change
001: Close to the Edge: Total Mass Retain
002: Close to the Edge: I Get Up I Get Down
003: Close to the Edge: Seasons of Man
004: And You And I: Cord of Life
005: And You And I: Eclipse
006: And You And I: The Preacher, The Teacher
007: And You And I: Apocalypse
008: Siberian Khatru: Siberian Khatru

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MIDI Automation

MIDI Automation can also cause the Set Browser to be displayed. The forms this supports are:

- Browse to a scene in the set
- Browse to a song in the set (select 1st scene)
- Insert new scene into set from scene pool list
- Insert new song into set from song pool list

Touch Mode

If Touch Mode is enabled in Program Settings (General Options), the list can be navigated using touch gestures (swipe scrolling). Otherwise, it uses scrollbar gestures.

10.3 Styling Scene View 2 with Stylesheets

SceneView is built using Qt4 user interface technology and is stylable using a variant of CSS for Qt. This topic lists the names and types of the various stylable elements.

Two default style sheets (.css files) are included in the Forte installation folder. These can be used for reference.

For a full discussion of Qt4 Stylesheets, please search the Internet for "Qt4 Stylesheets". In short, each element is independently addressable by name or widgets can be styled by control type. Children of controls inherit styling of the parent unless specifically overridden.

Knowing the control names enables customization of each, including hiding specific things not hidable in options by coloring it with transparent color (=rgba(0,0,0,0)).

Note that future versions of Forte may change significantly.

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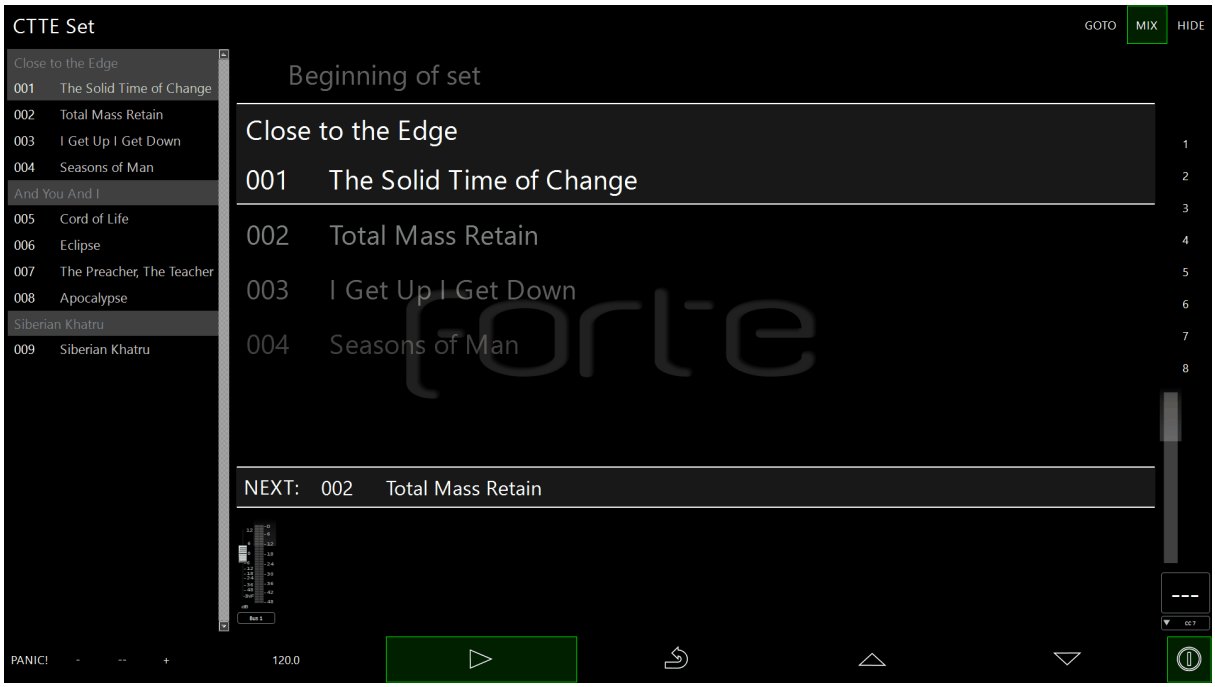

Control Name	Qt Control Type	OPTIONS.INI [SceneView] Visiblity flag
verticalLayout	QVBoxLayout	
nextSceneHintBar	Qframe	ShowNextSceneHint
nextSceneHintLayout	QHBoxLayout	
horizontalSpacer_2	Spacer	
nextSceneHintLabel	Qlabel	
sv2frame_MainSceneArea	Qframe	ShowUpcomingScenes
upcomingScenesAreaLayout	QVBoxLayout	
previousSetItem	SceneViewItemWidget	
frame	QFrame	
cueNote	QLabel	
sceneName	QLabel	
setOrderNumber	QLabel	
songName	QLabel	
sceneDescription	QLabel	
currentSetItem	SceneViewItemWidget	see elements above
nextSetItem1	SceneViewItemWidget	see elements above
nextSetItem2	SceneViewItemWidget	see elements above
nextSetItem3	SceneViewItemWidget	see elements above

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sv2frame_MeterBridge	Custom Widget	ShowMeterBridge
setOrderListWidget	QListWidget	ShowFullSceneList
sv2frame_QuickAccessButtons	Qframe	
button_QA1	QPushButton	ShowQuickAccessButtons
button_QA2	QPushButton	ShowQuickAccessButtons
button_QA3	QPushButton	ShowQuickAccessButtons
button_QA4	QPushButton	ShowQuickAccessButtons
button_QA5	QPushButton	ShowQuickAccessButtons
button_QA6	QPushButton	ShowQuickAccessButtons
button_QA7	QPushButton	ShowQuickAccessButtons
button_QA8	QPushButton	ShowQuickAccessButtons
sv2widget_MidiMeter	Custom Widget	ShowMidiMeter
sv2frame_PerformanceButtons	QFrame	ShowPerformanceButtons
lastSceneButton	QPushButton	
nextSceneButton	QPushButton	
panicButton	QPushButton	
powerButton	QPushButton	
prevSceneButton	QPushButton	
tapTempoButton	QPushButton	
transportButton	QPushButton	
sv2frame_Toolbar	QFrame	
Title	QLabel	ShowTitle
menuButton	QPushButton	

11 Rack Editor

The Rack Editor is a display for rack-level editing. Press the RACK EDITOR button on the Control Module to open the Rack Editor. Dismiss the rack editor with the OK button to accept changes or Cancel to abandon changes.

The Rack editor has three tabs:

- Rack Editor 73 - for rearranging rack elements and editing rack components across multiple scenes
- Setlist and Scenes Editor 75 - for arranging scenes into songs and sets
- Global MIDI Automation 78 - for setting up MIDI automation for things like scene changes

11.1 Rack Editor

The Rack Editor is a rack-centric view of your rack file. Instead of editing a rack within the context of a particular scene, the Rack Editor enables you to edit rack components across all scenes. You can see at a glance how a plugin's configuration changes between different scenes in the rack, and to make quick and easy changes.

Press the RACK EDITOR button on the Control Module and select the Rack tab.

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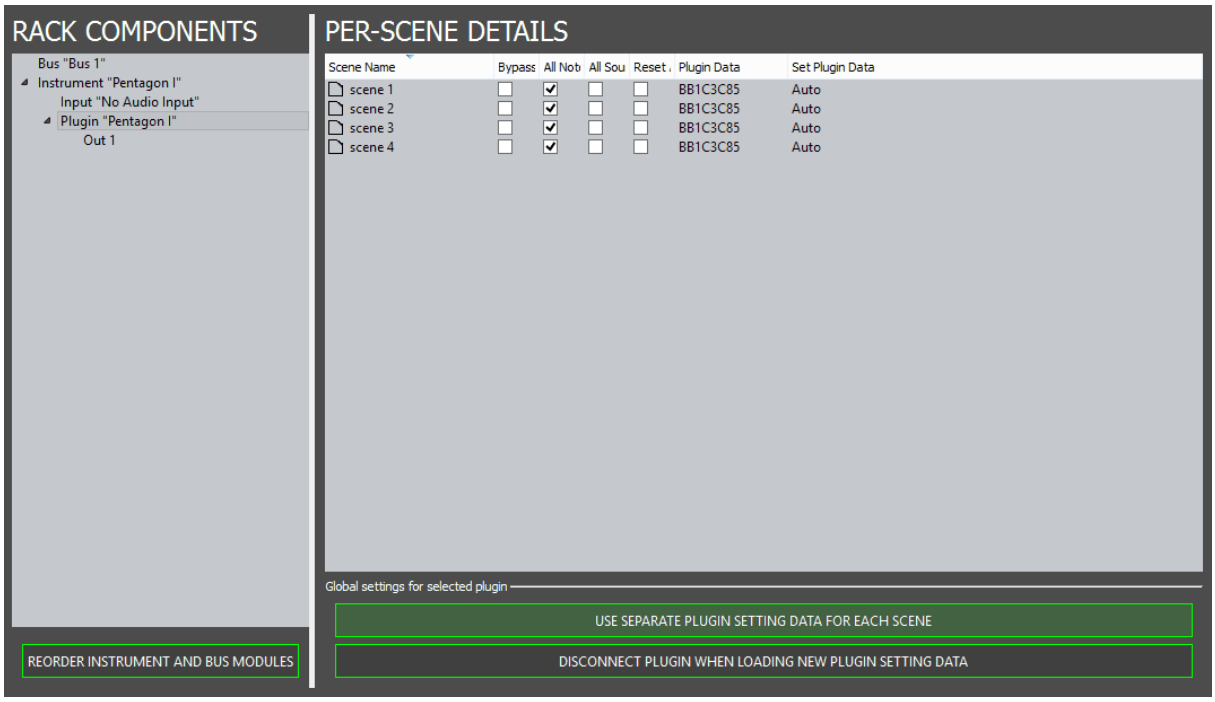

The structure of the rack file is displayed in a tree on the left side of the screen. When you highlight a rack component, the right side updates with a line of information for every scene in the rack.

Using this display it is easy to see in which scenes a plugin has a different configuration from other scenes.

The columns are:

- **Scene Name**: Scene name
- **Bypass**: for insert effects only
- **All Notes Off**: Configures whether all notes off is sent when the scene is activated
- **All Sounds Off**: Configures whether all sounds off is sent when the scene is activated
- **Reset All Controllers**: Configures whether a reset all controllers is sent when the scene is activated
- **Plugin Data**: This is a "signature" for the plugin's configuration data. If the signatures are the same on different lines, it means two scenes are using the same configuration data. You may select from any used set of configuration data by clicking in this cell.
- **Set Plugin Data**: This determines how plugin configuration data is sent when a scene is activated. It is exactly equivalent to the options on the Scene Commands tab of an instrument or insert effect. The three options are:
  - "Auto" to load data only if its different than the current scene
  - "Yes" to always load data.
  - "No" to never load data

NOTE: Scenes to not automatically reference every plugin in the rack file. For example, if you create a scene and then add a new plugin, the existing scene will not automatically

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contain any information about the new plugin. In this case, the rack editor will display a message "(plugin not configured in scene...)". If you wish to add this plugin to the current scene you may either update 58 the scene or trim 82 the rack (File|Trim) to update all scenes.

Plugin Global Settings

Two settings are global to the rack file for each plugin. They are also available in the plugin console scene commands 46.

- **Use separate plugin setting data for each scene** - when disabled, the plugin uses the settings in effect the last time the rack was saved. When enabled, each scene can set the plugin's configuration.
- **Disconnect plugin when loading new plugin setting data**

Reordering Instrument and Bus Modules

In the lower left corner are two buttons to reorder buses and instruments. Click to switch to reorder mode and drag the instrument and bus modules up or down to reorder.

NOTE: when you change the order of modules, forte must save, close, and reopen the rack file.

11.2 Setlist and Scenes Editor

The Scene and Set Manager is where you can organize scenes into songs and sets. Access the scene manager by pressing the RACK EDITOR button on the Console amd selecting the Setlist and Scenes tab.

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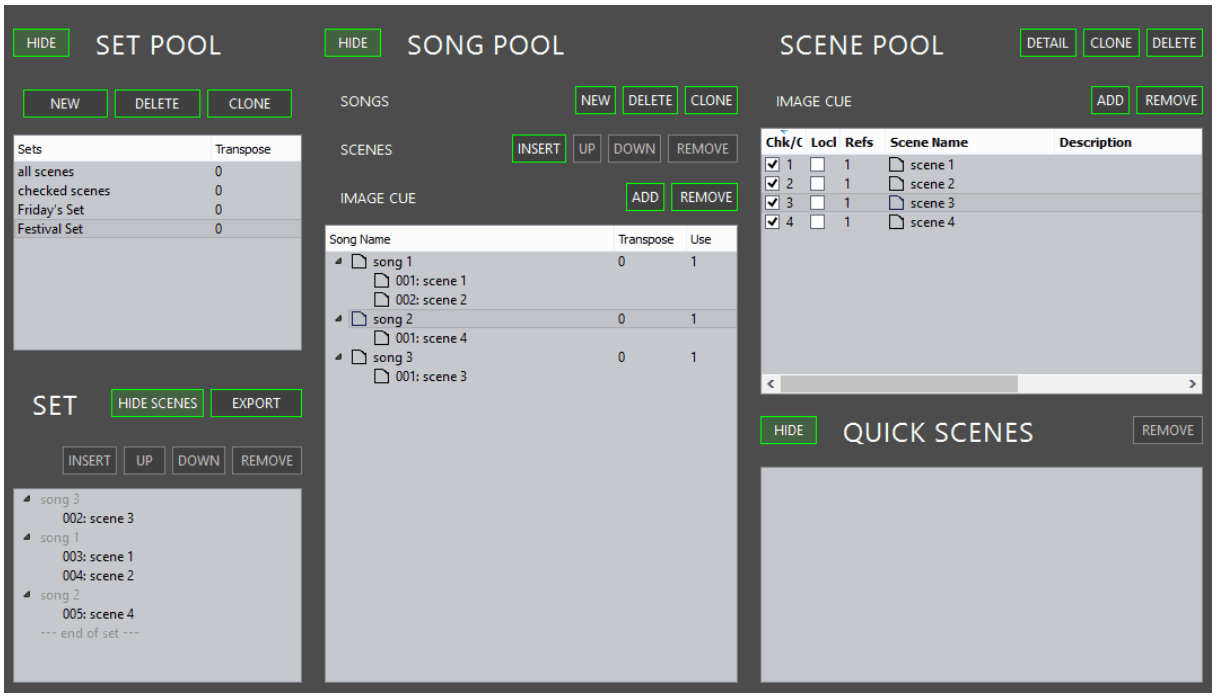

Scene and Set Manager

Set Pool

The top left is the Set Pool. Two predefined sets exist:

- **all scenes** consists of all scenes in the Scene Pool. This is an easy way to advance through all scenes in order without imposing Song management.
- **checked scenes** is the similar but only includes and advances through scenes checked in the "Inc" (include) column.

You can double click on a custom set's name to rename it. You may also double click on the number to the right of a set to transpose 64 the entire set up or down the number of halfsteps. This is done by altering incoming MIDI note data.

The Set Organizer may be shown or hidden with the Hide Sets button.

Current Set

The current set area shows the song and scene order of the currently chosen set. You may:

- Drag songs up and down in the set to reorder them.
- Add songs to the set by dragging them from the song pool or by highlighting them and pressing the Insert button.
- Remove songs from the set by highlighting them and pressing the Remove button.
- Use the Up or Down buttons to move songs up or down in the set. Hold CTRL while clicking up or down to move 10 positions at a time, hold SHIFT to move to top or bottom.

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- Show or hide the individual scenes in the song list by pressing the Show/Hide Scenes button.
- Export a set list to the clipboard by pressing the Export button. You may then paste the results into another application for printing.

The "--end of set--" item is in the set list to mark the end of the set and to enable you to drop songs at the end of the set.

Song Pool

The Song Pool is a collection of all defined songs. You may:

- Create new songs with the "New" button.
- Delete songs by clicking on them and pressing the "Delete" button.
- Clone a song by clicking on it and pressing the "Clone" button.
- Add scenes to songs by dragging them from the scene pool or by highlighting them and pressing the Insert button.
- Remove scenes from songs by clicking on the scenes and pressing the Remove button.
- Double click a Song name to rename it.
- Click in the "Trn" column to transpose 64 the entire song up or down.
- Move scenes up or down in a song by pressing the Up or Down buttons (hold CTRL while clicking up or down to move 10 positions at a time, hold SHIFT to move to top or bottom)
- Press Image Cue 69 Add or Remove to add or remove an image cue to the selected song or to a scene within a song. The small page icon next to the song or scene will be white when an image cue is attached.

The "Use" column displays how many times the song is used in various sets.

Scene Pool

The Scene Pool is a collection of all scenes. You can:

- Clone a scene by clicking on it and pressing the "Clone" button
- Delete a scene by clicking on it and pressing the "Delete" button
- Double click on a scene name to rename it.
- Check or uncheck the "Inc" column to include or exclude the scene from the "checked scenes" setlist.
- Check or uncheck the "Lnk" column to lock or unlock a scene for modification.
- Double click the Description column to add description information to the scene.
- Click in the "Trn" column to transpose 64 the scene up or down.
- Press Image Cue 69 Add or Remove to add or remove an image cue to the selected scene. The small page icon next to the scene will be white when an image cue is attached.

You cannot create new scenes here because scenes are snapshots of the current rack.

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Press the [NEW SCENE] button on the console to create a scene.

Quick Access Scenes

The Quick Access scene area enables you to define up to 8 scenes that are accessible instantly by MIDI control regardless of the current set order. When activated the scene will join the current set at the next location, and the scene will be advanced to. The following scene advance will then move to the original next scene. The inserted scene is not removed from the set order until the rack is reloaded. You may also insert a quick access scene via the SceneView Quick Access buttons. You may show or hide the Quick Access Scenes area by pressing the Show/Hide button.

See Scene MIDI Automation 78 for details.

11.3 Global MIDI Automation

Scene changes and other operations can be automated with user definable MIDI events or by specific control surface 115 commands. Access the Global MIDI Automation manager by pressing the RACK EDITOR 73 button on the Control Module and selecting the Global MIDI Automation tab.

Press ADD... to display a menu of available automation actions. Select on eto add it to the MIDI Automation list. Then alter the Port, Channel, Event Type, etc to match the MIDI input events you wish to trigger the automation action. You can also press LEARN to cause Forte to capture the next MIDI event and use that as the trigger.

Use the SELECT ALL, DESELECT ALL, and REMOVE SELECTED buttons to remove MIDI Automations.

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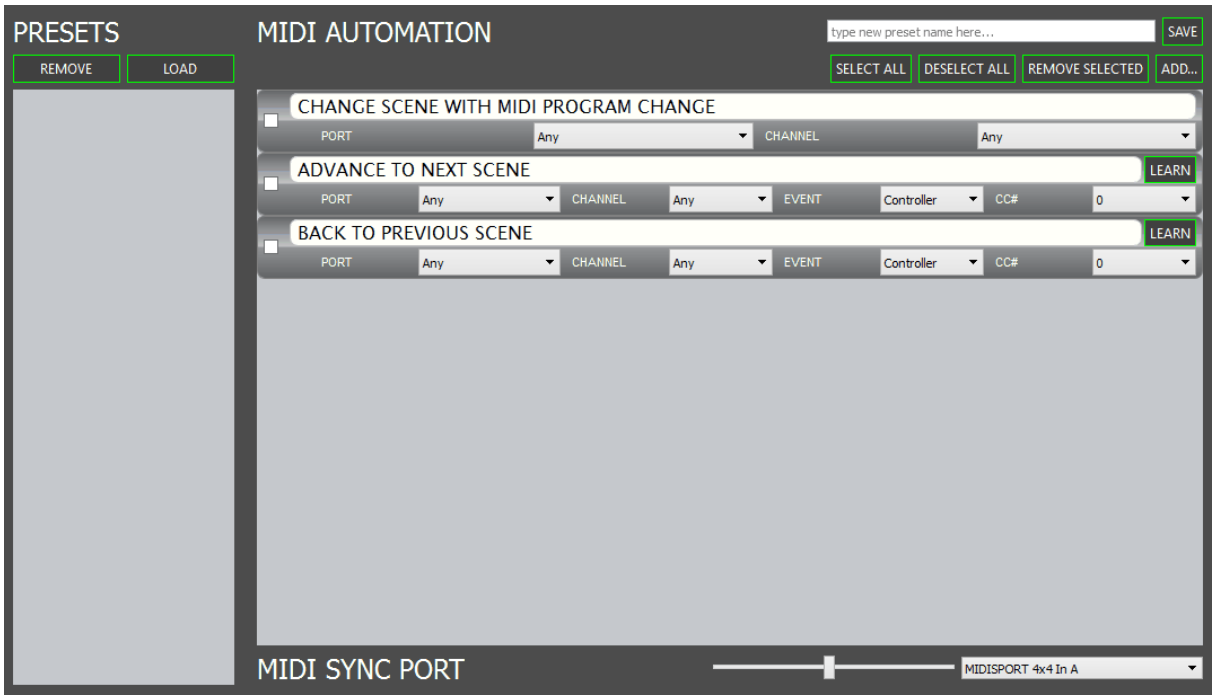

MIDI Sync Port

Scene Tempo [61] can be configured to listen to MIDI Sync events on a selected input port. Choose the port name from the drop down list. Use the slider to adjust sensitivity. Left causes the tempo to be more responsive to incoming sync period changes, but also causes the resulting tempo to be less stable. Right causes the tempo to be less responsive but more stable.

Presets

A set of MIDI Automation items can be saved as a named preset and recalled in other racks. Type a preset name and press SAVE to save a preset. Press LOAD to recall a preset and press REMOVE to remove the selected preset.

Accessing Large Numbers of Scenes using Bank Select and Program Change

One of the available MIDI automations is to select scene by program change. By default, a bank of scenes consists of up to 128 scenes, each selectable via program change. If more than 128 scenes exist in the active setlist, MIDI bank select (CC0 and CC32) can be used to select alternate banks of 128 scenes. In order for this feature to work, the controller must send bank selects starting at 0, 1, 2, etc. Some devices use different bank numbering schemes that may not work.

NOTE: Using alternate MIDI controllers: You may change the number of scenes per bank by modifying a setting in OPTIONS.INI. Select Tools|View INI Files… and open OPTIONS.INI. Find the line that says "ScenesPerBank=128" and change that to a different value. If you change this to 4, for example, you must select bank 1, program 0

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to access the 4th scene in the setlist. Likewise, bank 2, program 2 would select the 10th scene. The ability to alter the number of scenes per bank can be useful when using some MIDI controllers like guitar footboards that select programs using separate pedals.

12 Maintaining Rack FIles

12.1 Creating New Racks

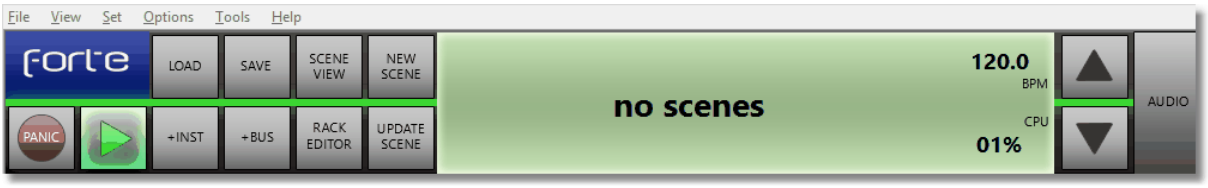
Select File menu "New Rack" to create a new empty rack file.

You may then add buses, and instrument plugins. For each instrument, you may wish to alter the plugin's sound and the MIDI configuration. Then snapshot one or more scenes to organize the rack into a set list.

See Plugin Console[39] to edit plugins

See Scene and Set Manager[75] in the Rack Editor[33] to organize scenes into a performance setlist

12.2 Loading and Saving Racks



To load a rack file, press the LOAD button or use the File|Open... command to select a rack file to load. Rack files use the extention ".rcf".

To save a rack file, press the SAVE button or use the File|Save or Save As... comand to save a rack file.

Automatic Backup

When you save a rack file, Forte can save a backup of the current file. See Configuring Options and Preferences[103] to configure backup. The backup files have the extension ".rcf_bk".

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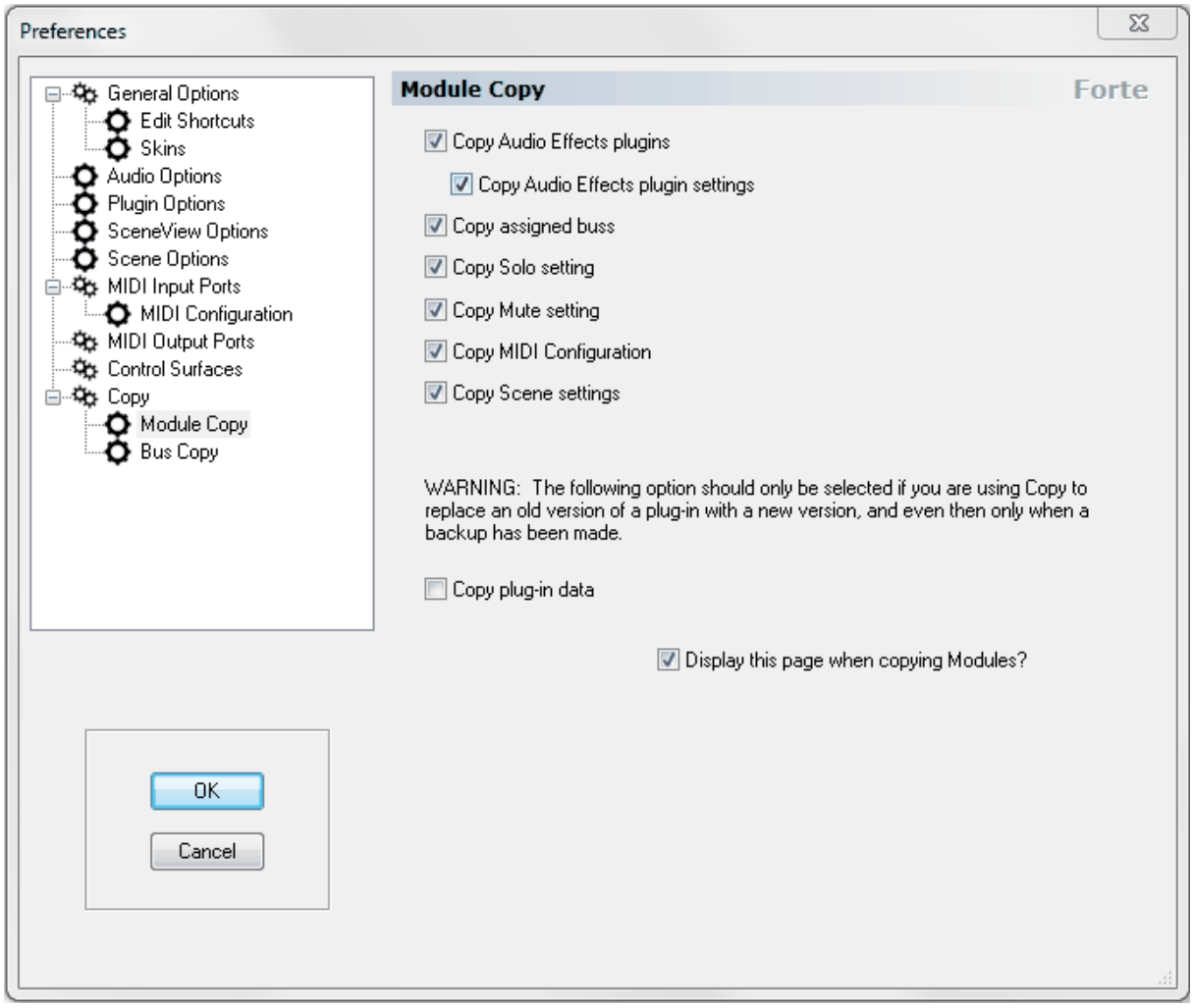
12.3 Copying and Replacing Instruments and Buses

12.3.1 Copying Intruments



You may copy an instrument to a new instrument and specify a new instrument plugin. The preferences above will be used to copy or skip various attributes of the original instrument module.

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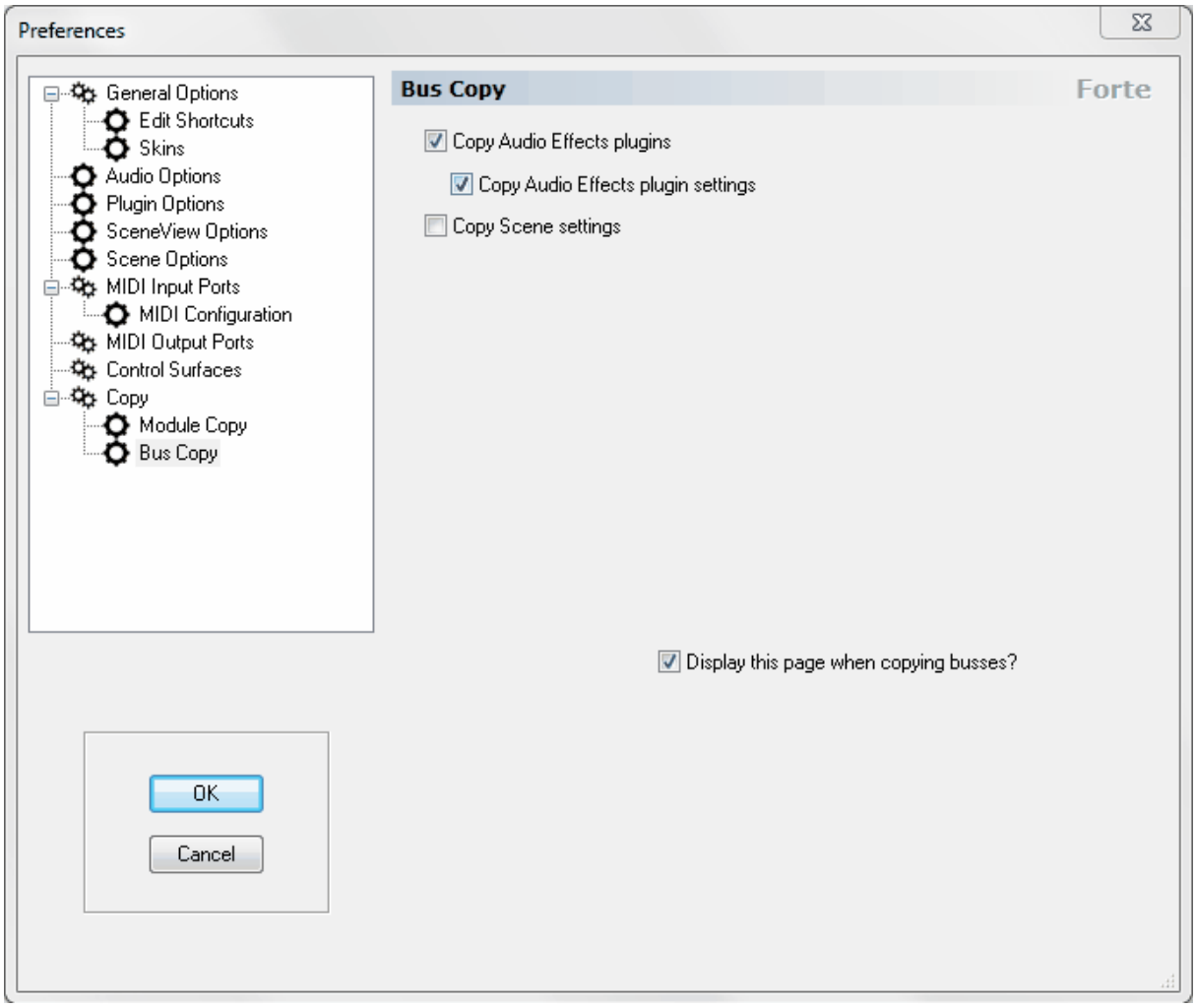
12.3.2 Copying Buses



You may copy a bus to a new bus. The preferences above will be used to copy or skip various attributes of the original bus module.

12.4 Trimming Racks

Because Scenes contains snapshots of a rack at the time the scene is captured, it is possible over time for scenes to build up extra data that is no longer important. For instance, if a plugin is removed from the rack, the data for that plugin is no longer needed. It will not automatically be removed. Instead, you may Trim the rack to remove unused data.

The command is in the File menu. Trim simply cycles through all scenes in the rack, applies each one, and then recaptures it as a new up-to-date snapshot.

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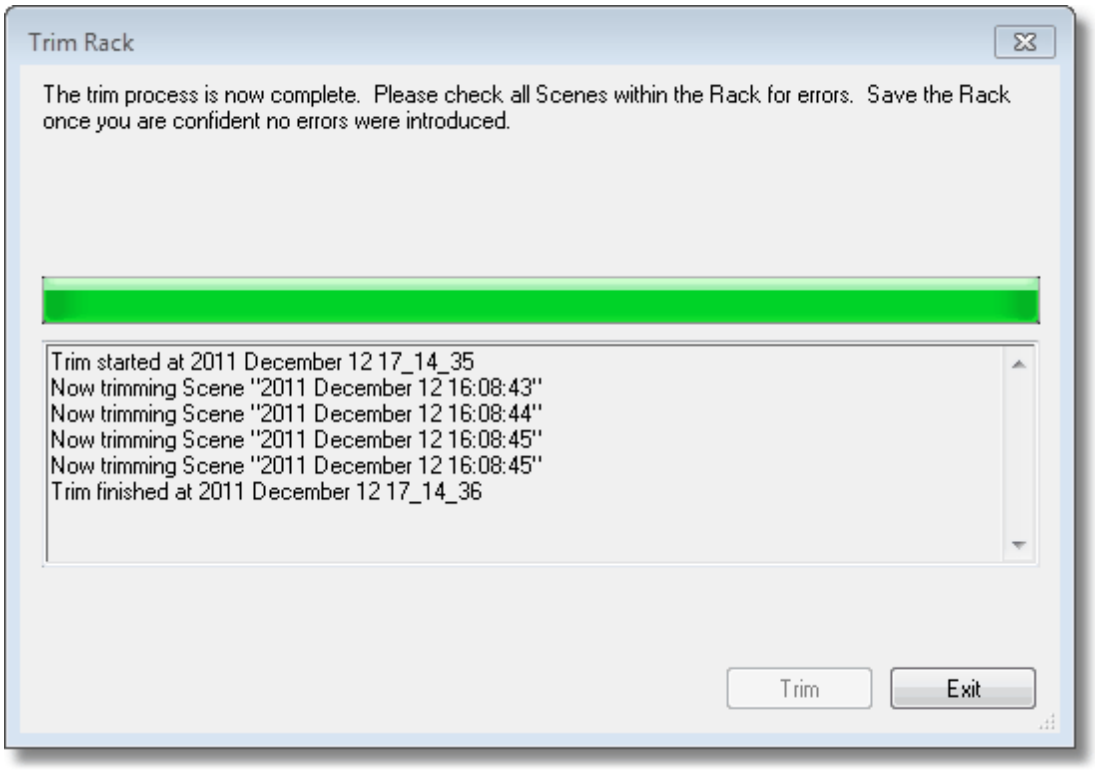
Trim Rack
The trim process is now complete. Please check all Scenes within the Rack for errors. Save the Rack once you are confident no errors were introduced.
Trim started at 2011 December 12 17_14_35
Now trimming Scene "2011 December 12 16:08:43"
Now trimming Scene "2011 December 12 16:08:44"
Now trimming Scene "2011 December 12 16:08:45"
Now trimming Scene "2011 December 12 16:08:45"
Trim finished at 2011 December 12 17_14_36
Trim
Exit

If you encounter a hang or crash during rack trim, you may use a troubleshooting option to see if that addresses the issue. See Trim_Delay_Ms in OPTIONS.INI[122].

12.5 Adapting to Hardware Changes

12.5.1 Hardware Profiles

A hardware profile is a feature in Forte which enables greater flexibility in mapping MIDI and audio devices. It is a named set of hardware driver dependencies stored within a rack file.

Performer Edition

In Performer Edition, a rack file can hold one hardware profile. However, Forte 2.0 includes a powerful remapping wizard enabling you to alter your rack's hardware mappings quickly, even switching to alternate MIDI and audio ports.

Producer Edition

In Producer Edition, a rack file can hold multiple hardware profiles and can intelligently choose a compatible profile when you load a rack. Once a rack has been loaded on a specific set of devices and the mapping wizard is complete, the saved rack can then be moved back to the other hardware and return to this hardware configuration with no additional user intervention required. Each hardware configuration will have an associated hardware profile that determines MIDI and audio mapping.

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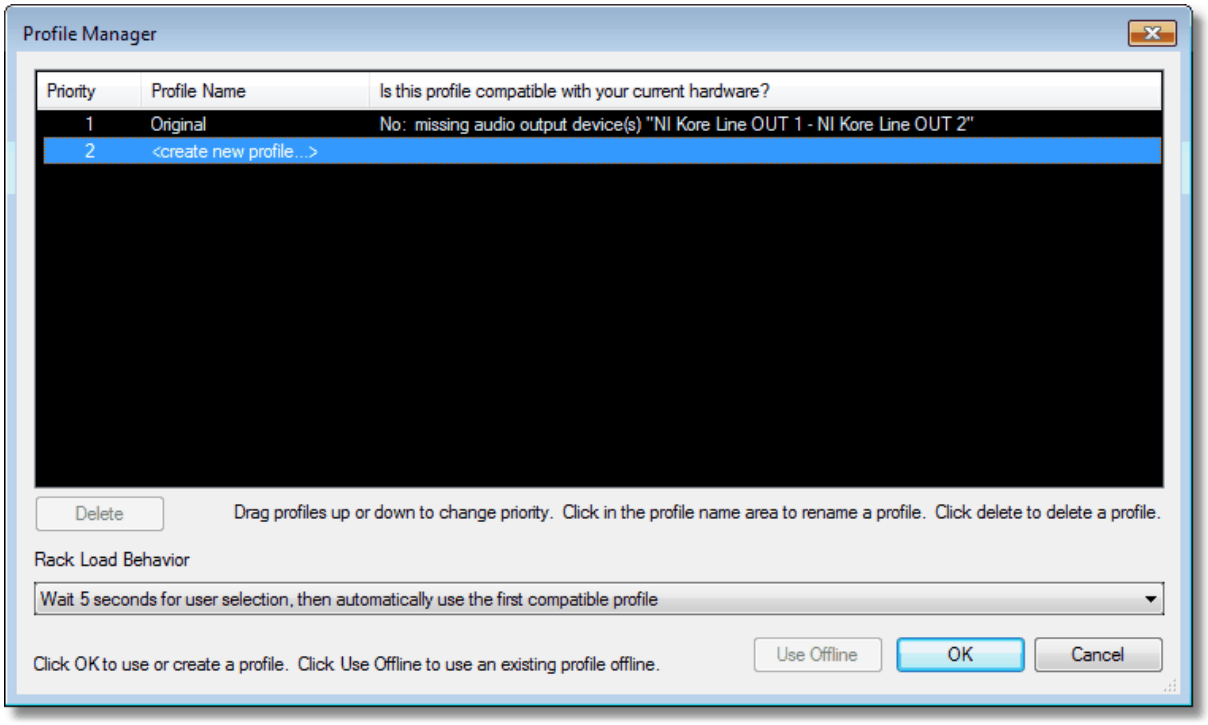
Selecting a Profile (PRODUCER Edition)


Profile Manager
Priority
Profile Name
Is this profile compatible with your current hardware?
1
Original
No: missing audio output device(s) "NI Kore Line OUT 1 - NI Kore Line OUT 2"
2
<create new profile...>
Delete
Drag profiles up or down to change priority. Click in the profile name area to rename a profile. Click delete to delete a profile.
Rack Load Behavior
Wait 5 seconds for user selection, then automatically use the first compatible profile
Click OK to use or create a profile. Click Use Offline to use an existing profile offline.
Use Offline
OK
Cancel

When you load a rack file, you are given an opportunity to choose between compatible profiles or create a new profile. By default, the opportunity lasts for 5 seconds before the first compatible profile is automatically loaded. This behavior can be changed in the profile selection dialog box. Note that incompatible profiles are also shown with the reason they are deemed incompatible. This can help you remember to plug in hardware if necessary.

You may choose to use an incompatible profile in "offline" mode by selecting it and pressing the "Use Offline" button. In this mode, the real audio and MIDI hardware is ignored, and simulated devices with the expected names are created and used instead. No MIDI input or audio streaming is possible when using a profile offline but this is useful for rack editing.

New Profile Creation Wizard

The new profile creation wizard has three stages:

1. Select the name of the profile and choose an existing profile upon which to base the new one (PRODUCER only)
2. Map MIDI Ports. Here you may swap MIDI port assignments or remove them.
3. Choose ASIO driver (ASIO mode only). This enables you to adapt a rack to a different ASIO setup.

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Upon completion, the new profile is active and is available in the list of profiles the next time the rack is loaded. In PERFORMER edition, this new profile replaces the old profile.

Tools Menu: Change Hardware Profile

This tool launches the profile creator to change MIDI and ASIO assignments after the rack is loaded. You must reload the rack for the new profile to take effect.

12.5.2 MIDI Port Renaming

Forte enables you to assign custom names to MIDI ports. If you use two different setups with different MIDI port hardware but use the same custom names, Forte will treat them as identical and avoid profile migration. For instance, you could assign "MIDI Port A" to be "My Big Keyboard" (naming it for how its connected). If two setups both have a "My Big Keyboard" port, they will be considered the same ports.

See Custom Names 113 for details.

13 Control Surfaces and Automation

Forte supports a variety of control surfaces including custom definitions. A control surface is a way to automate Forte that is not specific to an individual rack.

See Configuring Control Surfaces for Use in Forte 85 for details on how to set Forte up for use with a control surface.

13.1 Configuring Control Surfaces for Use in Forte

Open Options|Program Settings 115 and select the "Control Surfaces" item. Select Add to create a control surface. Choose a device (a control surface definition), a MIDI input and a MIDI output. You may also edit existing control surfaces or remove them.

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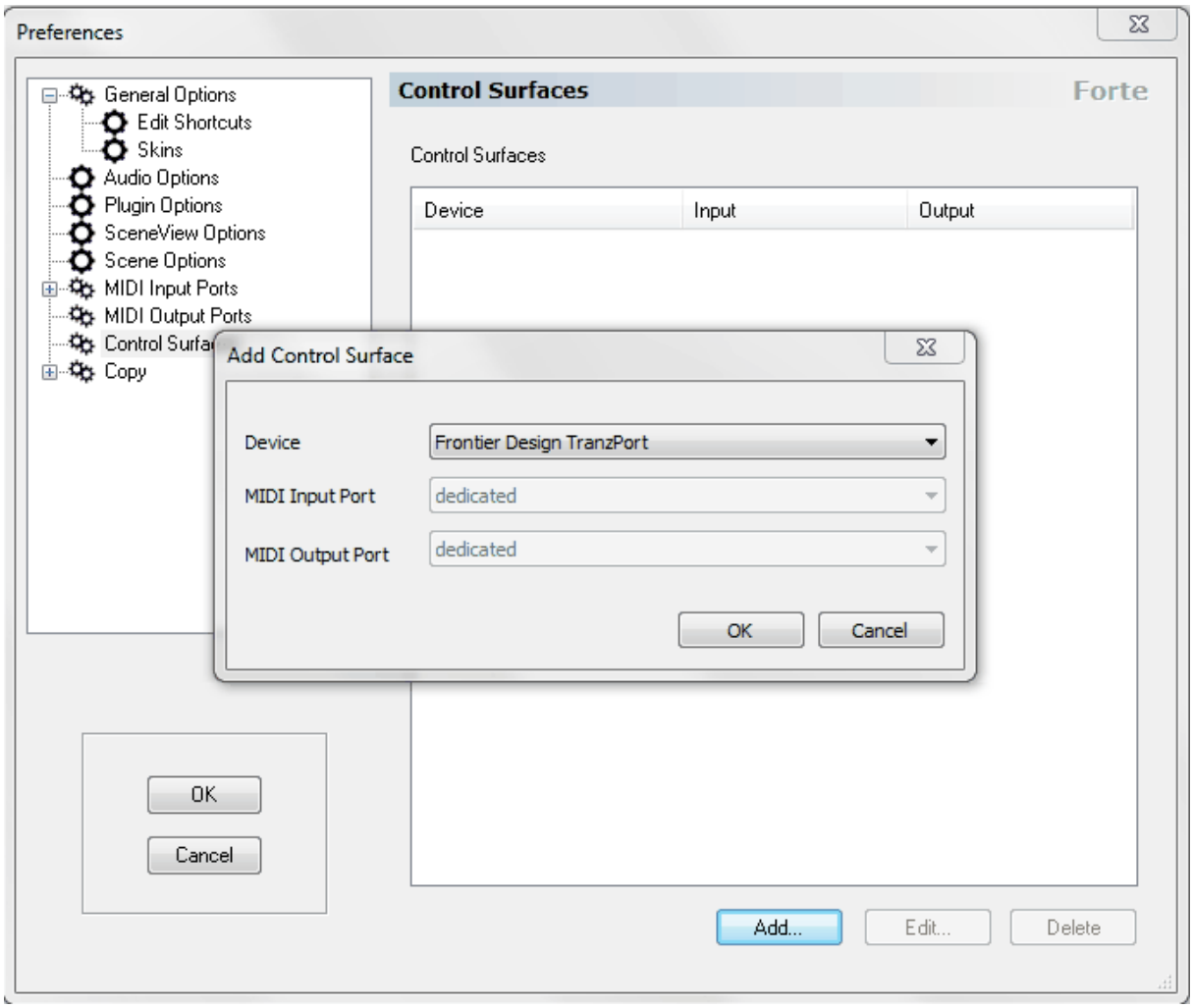

Some control surfaces have dedicated MIDI inputs and outputs (like the Frontier TranzPort). In this case, you do not need to choose ports as they are already known.

13.2 Control Surface Definitions and Editor

A control surface definition tells forte how to react to MIDI events and how to update the control surface when changes happen. In order to be useful, a control surface must be configured in Program Settings[115]. By configuring a control surface, you apply a definition to a specific set of MIDI inputs and outputs.

Upon startup, Forte reads three XML files containing control surface definitions:

- **"FactoryControlSurfaceDefinitions.xml"** located in the forte install directory – this file contains control surface definitions supplied by Brainspawn
- **"SampleControlSurfaceDefinitions.xml"** located in the forte install directory – this

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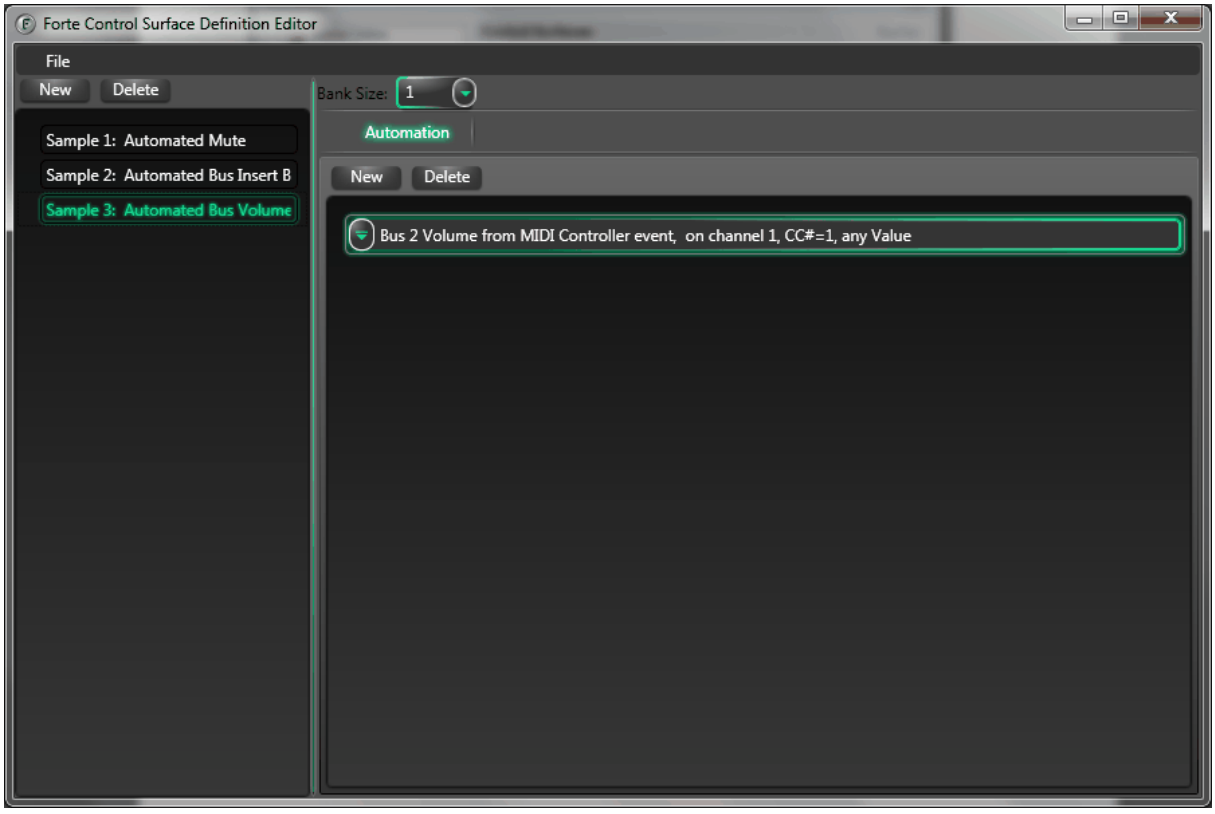
file contains tutorial definitions to aid you in creating your own.

- **"MyControlSurfaceDefinitions.xml"** located in the application data directory (typically C:\Users\<yourname>\AppData\Roaming\brainspawn\forte 3) – this is where you can add your own definitions.

You may alter or create new definitions using the Control Surface Definition Editor in the start menu. This application always automatically edits "MyControlSurfaceDefinitions.xml". You may also edit the XML files by hand if you have the knowledge to create valid XML.



- Press New to create a new control surface.
- Double click a definition in the left pane to rename it, or highlight and press Delete to remove it.
- Use the File|Save menu command to save your changes.
- Use the New and Delete buttons to add or remove individual automation items to the highlighted (current) control surface definition.
- Click the down arrow on an automation to edit source and destination configuration.
- When you are finished, use the File|Save menu command to save the altered file.
- In order to use this new control surface definition, you must start Forte, open Control

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Surface Settings and configure [85] the definition for use.

13.3 Mackie Control Compatible Devices

The Mackie Control surface definition has the following capabilities. Refer to "FactoryControlSurfaceDefinitions.xml" located in the forte install directory for full details. Some devices emulate Mackie Control, so examining the definition is important to understanding how your control surface works.

- Automated volume on buses and instruments – the first eight modules are mixed with the 8 faders of the control surface. A bank up/down button enables you to control the next 8 modules.
- Toggle Mute
- Next Scene/Previous Scene
- Tap Tempo
- Transport Play/Stop and Panic

This definition includes feedback to the control surface for automated flying faders.

13.4 Frontier Design TranzPort

If a Frontier Design TranzPort controller is attached to a USB port. Forte will open it and respond to commands.

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13.5 Behringer BCF2000 and Compatible Devices

The Behringer BCF2000 can be used in several modes with Forte.

- Connected via USB or MIDI (U-1/2/3/4 and S-1/2/3/4)
- Mackie mode or native Behringer Mode

USB/MIDI modes are selected by pressing Store and Edit together and using knob 1 to select U-1/2/3/4 through S-1/2/3/4, followed by exit. Note that you may need to restart Forte as this can add or remove MIDI drivers in Windows.

Mackie Mode vs. native Mode is selected by holding a button while powering on the device. Note that USB/MIDI modes are only settable while in native Mode although they can apply in enumation mode too.

Consult the BCF2000 documentation for more information.

The key to successfully using the BCF2000 is coordinating its own internal settings with an appropriately configured control surface definition in Forte. Some BCF2000 modes echo MIDI input back to output, resulting in a MIDI loop as Forte and the BCF2000 both try to send the same data back and forth to each other forever. Therefore, setting up the BCF2000 correctly for Forte is critical to success.

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Native Mode

Forte contains several provided control surface definitions for native Behringer BCF2000:

- BCF2000 Bus Mix - faders control only bus volume
- BCF2000 Instrument Mix - faders control only instrument volume (only channel 1 for multi-channel instruments)
- BCF2000 Module (Bus and Instrument) Mix - faders control the first eight Forte modules, either bus or instrument (only channel 1 for multi-channel instruments)

Using the BCF2000 Connected via USB

When using the BCF2000 with USB, configure the device in U-1 mode. U-2, 3, or 4 may work as well but the internal routing is more complex. In USB mode, a MIDI driver will appear in Windows called "BCF2000". When setting up the USB BCF2000 control surface in Forte, the port will appear as "dedicated".

Using the BCF2000 Connected via MIDI cables

When using the BCF2000 with MIDI cables, configure the device this way:

- Connect MIDI in to the BCF2000 MIDI IN port
- Connect MIDI out from the BCF2000 using MIDI OUT B/Thru. Do not use MIDI OUT A as that will result in a MIDI loop.
- Use S-3 mode (standalone mode 3) to avoid a MIDI loop.

When configured this way, input to the BCF2000 alters fader position, but is not output back thru to the output. Manual Fader manipulation will generate MIDI out to Forte.

Emulation Modes

The Behringer BCF2000 can also be configured to emulate the Mackie and Logic control surface products by pressing a mode button while powering on the device. You may use the following emulation modes either with USB or MIDI:

- MC C - Mackie mode for Cubase
- LC - Logic Control
- MCSo - Mackie mode for Sonar
- bhui - Mackie Baby HUI

When using MIDI cables use S-3 standalone mode and the MIDI OUT B/THRU port to prevent MIDI loops.

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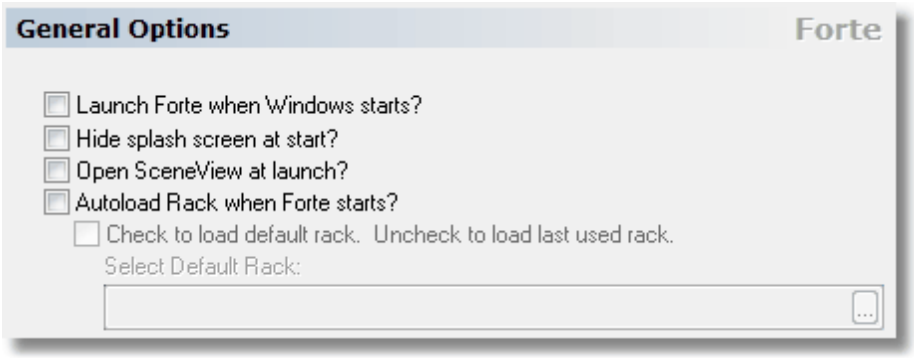
14 Performance Features

See:

- Autostart 91
- MIDI Panic 92

14.1 Autostart


General Options
Forte
Launch Forte when Windows starts?
Hide splash screen at start?
Open SceneView at launch?
Autoload Rack when Forte starts?
Check to load default rack. Uncheck to load last used rack.
Select Default Rack:

Forte contains features to enable you to boot your computer up directly into your rack file. This enables low or no-touch start-up operation.

- Check "Launch Forte when Windows starts" to auto-run Forte as soon as you log into Windows. If you configure Windows to auto-login, Forte will start as soon as Windows auto-logs-in.
- "Open SceneView at launch" automatically starts Forte with SceneView enabled.
- "Autoload Rack when Forte Starts" automatically loads a specified rack file when Forte starts.

By checking these items and configuring Windows to automatically log in, you can press the computer's power button, and automatically be ready to play your rack file.

Compatibility issues with Windows User Account Control

NOTE: On Windows Vista and later, enhancements in UAC (User Account Control) may prevent Forte from starting correctly on Windows login. Forte requires runlevel = highest (a Windows privilege option) to be compatible with the widest variety of VST plugins.

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Forte uses a "Run" key in the Windows registry to cause itself to be launched on login, but depending upon your Windows configuration, this may not work as expected. The workaround for this is to create a task in the task manager that launches Forte on logon. Make sure "Run with highest privileges" is checked. A command line tool exists to create this task. As an example, the following could be run from an Administrator command line:

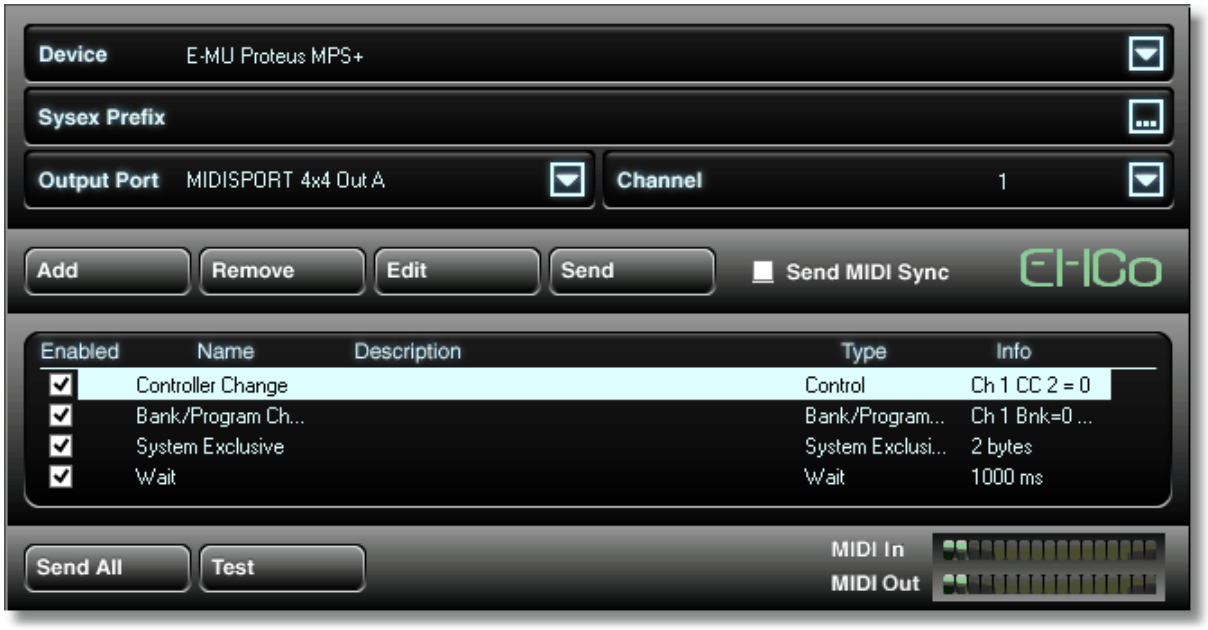
schtasks /create /tn "Run Forte on Logon" /tr "c:\program files\brainspawn \Forte 3 Producer Edition\forte.exe" /sc onlogon /rl highest

14.2 MIDI Panic

The Panic button sends MIDI Note Off instructions to all plugins in the rack.

15 EHCo External MIDI Hardware Controller

EHCo is an add-on product for Forte Performer Edition and is available separately. It is included with Forte Producer Edition. See www.brainspawn.com for details on trying and purchasing EHCo.



Getting Started

This section will tell you how to get EHCo started as quickly as possible.

1. **Install EHCo** - EHCo is provided as a self-installing program (.EXE) file. To install, double click the installation program file and follow the instructions in the installation wizard. You will need to agree to the End User License Agreement and enter your User Name and License Key.
2. **Start Forte**
3. **Add EHCo to a new rack** - Click the add button on FORTE's head- er module. In the pop-up menu of plug-in choices select the brain- spawn sub-menu and select EHCo.

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EHCo will be added to the rack.

4. **Open EHCo's plug-in console** - Open the EHCo console by clicking the arrow button next to the "brainspawn EHCo" name in the instrument module.
5. **Select a MIDI Output Port** – Click the arrow in the Output Port box to open a menu of available output ports. If no ports are available, open FORTE Program Settings 113 and select MIDI Output Ports.
6. **Play MIDI Input** - At this point EHCo should receive MIDI input and echoing it to the selected MIDI output port.

Overview

EHCo extends FORTE's features to external MIDI hardware devices. The name EHCo is short for "External Hardware Controller." EHCo is added to FORTE racks in the same way other VSTi and DXi instruments are added. EHCo can be found in the FORTE instrument menu under 'brainspawn'. This Operations Manual assumes you are familiar with Forte operation. Although EHCo is a plug-in, it will not operate with other host applications. It is designed to work closely with FORTE's built-in features. For example, although EHCo outputs MIDI data, it does so through Forte's internal capabilities. This enables MIDI port management to be centralized within FORTE.

EHCo receives MIDI input like any other VST or DXi virtual instrument, which it echoes to a selected MIDI output port. This enables you to use Forte's sophisticated MIDI filtering and routing capabilities to control external hardware. Additionally, this enables you to send specific MIDI messages, including system exclusive to external devices on FORTE scene change.

How It Works Within Forte

VSTi and DXi instrument plug-ins take MIDI and audio in and send audio out. EHCo extends this to external hardware connected to the PC with MIDI output ports. EHCo will pass audio through it without modification, which can be a handy way to do guitar processing with a single instrument module. In this case, the audio input is the guitar, which passes through EHCo into other VST processors and to the output, while the MIDI output is used to control external gear like guitar processors.

Adding EHCo to a FORTE Rack

To add EHCo click the add button on FORTE's header module. In the pop- up menu of plug-in choices select the brainspawn sub-menu and select EHCo. EHCo will be added to the rack. You may then open the EHCo console by clicking the arrow button next to the "brainspawn EHCo" name in the instrument module.

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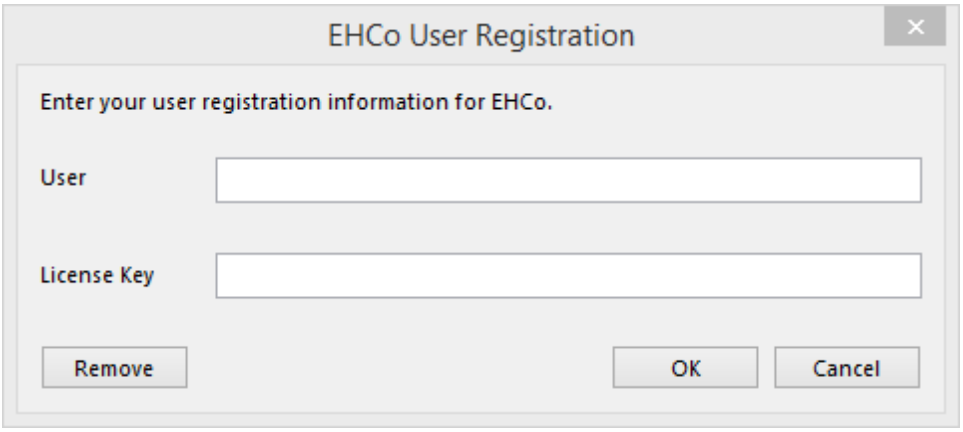
15.1 Enabling EHCo with a Registration User Name and License Key

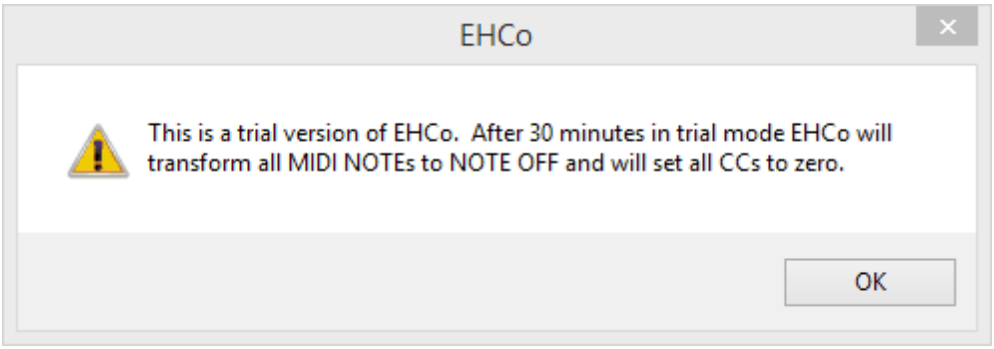
EHCo is installed with Forte or with a separate installer. It can either run in Trial mode, with an EHCo license, or with Forte Producer license.

If EHCo is running in Trial mode, you will see the following dialog box when you add it to a rack or load a rack containing EHCo:



If you have received user registration information, enter it here and press OK. This will activate ECHo in standalone mode. If you register Forte with a Producer license, EHCo will automatically be licensed as well.

If you choose to run ECHo in Trial mode, you will see the following message.


EHCo
This is a trial version of EHCo. After 30 minutes in trial mode EHCo will transform all MIDI NOTEs to NOTE OFF and will set all CCs to zero.
OK

After 30 minutes, EHCo will manipulate all outgoing MIDI data to turn notes off and reset MIDI controller values to 0.

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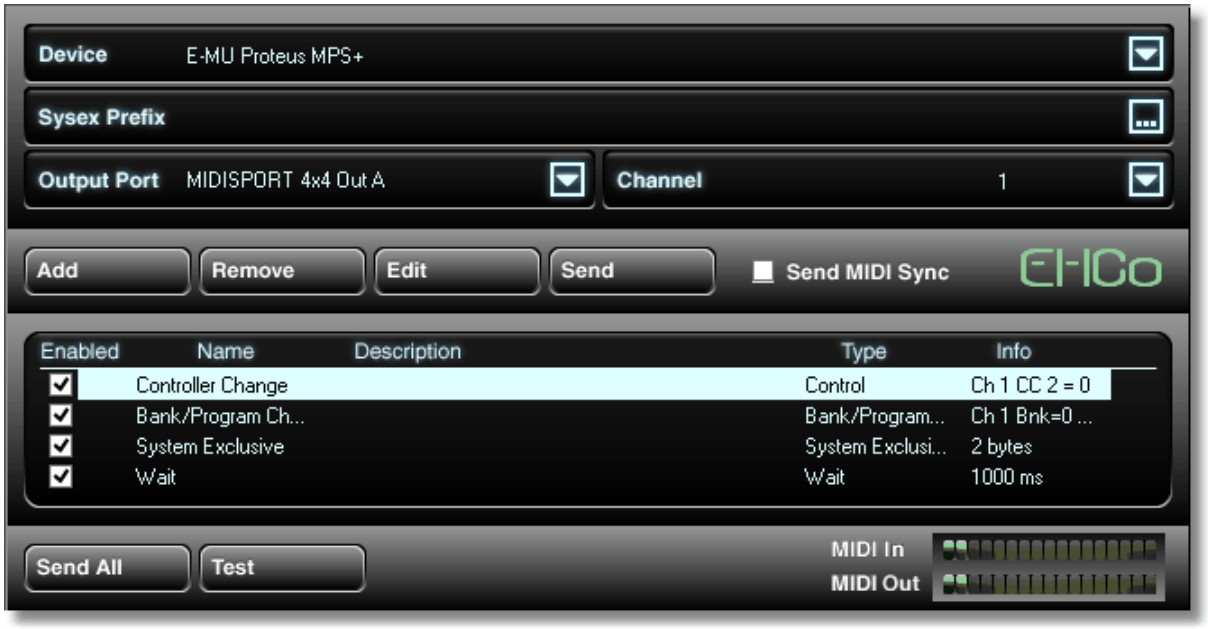
15.2 ECHo User Interface



User Interface Element Reference

- **Device**: Load INS files to learn bank, patch, and controller names. INS files are the format used to import instrument information into Cakewalk products and are available via a web search.
- **Sysex Prefix**: System exclusive data can be modified as it is transmitted to adjust for different MIDI device IDs. The prefix here replaces the first bytes of the stored system exclusive data.
- **Output Port**: Determines which output port MIDI will be transmitted on
- **Channel**: Alters the channel of transmitted MIDI data. Using this, you can force all channelized MIDI to be transmitted on a single channel.
- **Send MIDI Sync**: Send MIDI Sync to the selected output port

- **Scene Command List**: This is a list of MIDI data that is transmitted when the current scene is switched to
- **MIDI Data**: A list of MIDI messages to be transmitted
- **Scene Command List Editing Buttons**: Buttons to manage items in the scene command list: Add, Remove, Edit
- **Send/Send All**: Send either the current selected item or all items immediately
- **Test**: Set up and run the Closed Loop MIDI Test

- **MIDI In/Out Meters**: These display activity when MIDI is detected. The strength of each event is Note velocity or CC value.

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15.3 MIDI Configuration

Using Forte MIDI Filtering

Forte has sophisticated MIDI filtering that changes MIDI input in various ways including transpose, key range limiting, controller rescaling, re-channelizing, and masking. Refer to the the section on MIDI Filtering[51] for a full description of these capabilities. MIDI output in real-time by EHCo is processed through Forte's internal MIDI filters and can be altered in all the ways supported by Forte, meaning that you can use EHCo with Forte as a powerful MIDI data processor. For instance, if you have a MIDI-con- trolled tube preamp with a built-in reverb effect, you could use Forte and EHCo to control this device without having to reconfigure either the MIDI input or the preamp.

Configuring MIDI Output Ports

MIDI Output ports are configured within Forte's Program Settings[113] pages. If EHCo is installed, Forte will add a new preference page called "MIDI Output Ports[113]." This page functions identically to the existing MIDI Input Ports page. A single instance of EHCo can output to a single MIDI output port. Multiple instances of EHCo can be created in a rack to output to multiple ports. Enable the MIDI output ports you wish to use with EHCo. You may select multiple output ports and choose the specific port within EHCo.

15.4 External Device Emulation

An external MIDI device:

- Is connected to a MIDI Output Port
- Responds to one or more MIDI channels
- Optionally has MIDI program names and bank names
- Optionally can respond to MIDI System Exclusive data

EHCo acts as a "proxy" for your external MIDI hardware by reading INS files containing bank names, patch names, and controller names. This enables you to select patches on your MIDI device using friendly bank and patch names within EHCo.

To import patch names, click the open button on the Device combo box and select "Import Patch Names…". Browse to the desired .INS file and click OK.

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Once loaded, the device's patch names appear in the Forte preset manager and scene commands sections. Controller names may be edited by name in the Forte MIDI Routing screens.

In order to proxy an external MIDI device, EHCo must know which MIDI output port the device is connected to and what, if any MIDI channels it will need to transmit on. Select the connected port name and channel. If the device receives on all 16 channels, select OMNI.

MIDI Sync Out

EHCo can send MIDI Sync messages on the selected MIDI Output port. Be careful not to enable MIDI Sync on more than one instance of EHCo using the same MIDI output port. This will confuse an external device. Refer to a MIDI reference to understand how MIDI Sync works. The important point is that it does not send time line information, but only sends pulses 24 times per quarter note. This defines tempo, but not location, time signature, or absolute time

15.5 Sending MIDI On Scene Change

EHCo can store and transmit multiple MIDI messages when Forte changes scenes. In the example below, four MIDI messages are defined, each of a different type. When the current scene is switched to, each is sent in order. Only those message marked "Enabled" are sent. You may transmit each manually with the "send" button or transmit all manually with the "send-all" button.

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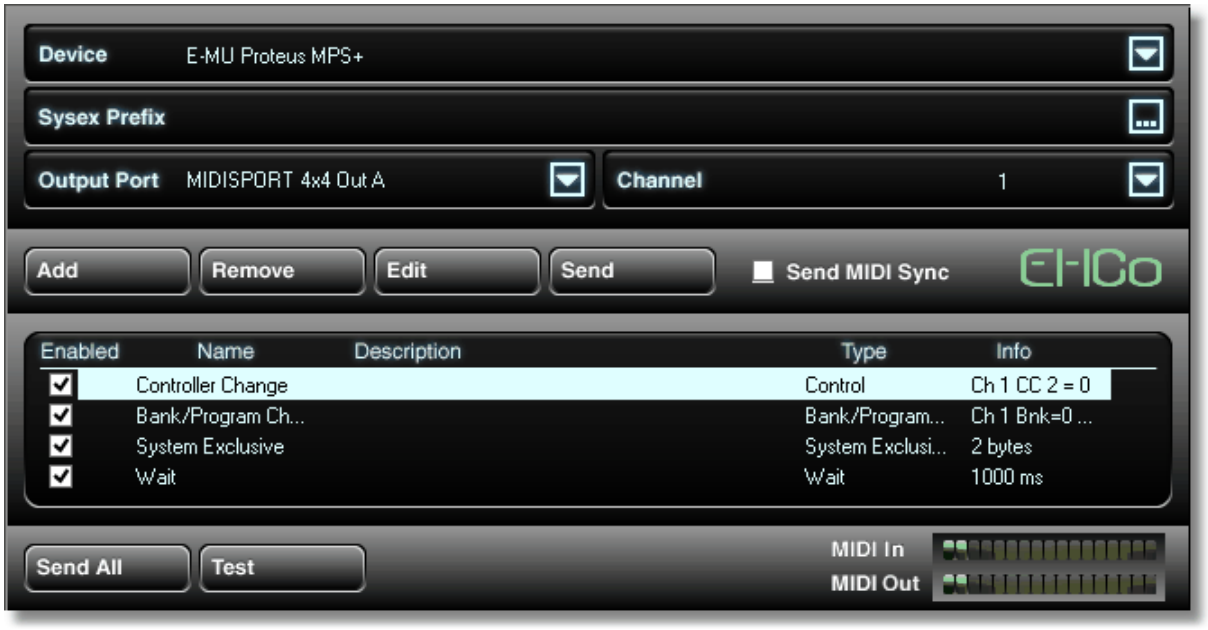

Press 'add' to create a new MIDI message. A menu appears giving you a choice of which type of message to create:

- **Controller value** - enables you to send specific CC values to devices on scene change
- **Generic MIDI message** - this enables you to enter a MIDI message using a hexadecimal editor. If this message is a CC or program message, it will open in the appropriate editor when you press "edit."
- **Bank/Program Change** - this enables you to select a preset using the instrument definitions imported from INF files.
- **System Exclusive** - One or more blocks of system exclusive data be- ginning with 0xF0 and ending with 0xF7.
- **Wait** - Pauses a specified number of milliseconds between messages.

Removing MIDI Messages

Highlight a message and click 'remove' to delete it.

Sysex Prefix

For your convenience, and to avoid having to edit system exclusive data manually, the Sysex Prefix window enables you to quickly replace the first few bytes of any system exclusive data in the list. This can be used to modify the Sysex ID of any transmitted data to match your MIDI device configuration. For instance, a Roland XP-50 typically responds to device 17. If you have changed this to another number, you should enter the correct bytes into the Prefix area. The bytes must start at the beginning of the system exclusive message and will replace as many bytes as are in the prefix.

Editing MIDI Messages

Select a message and press 'edit' to edit the data. An editor dialog appropriate for the type of message appears. The system exclusive editor is a hexadecimal editor with the

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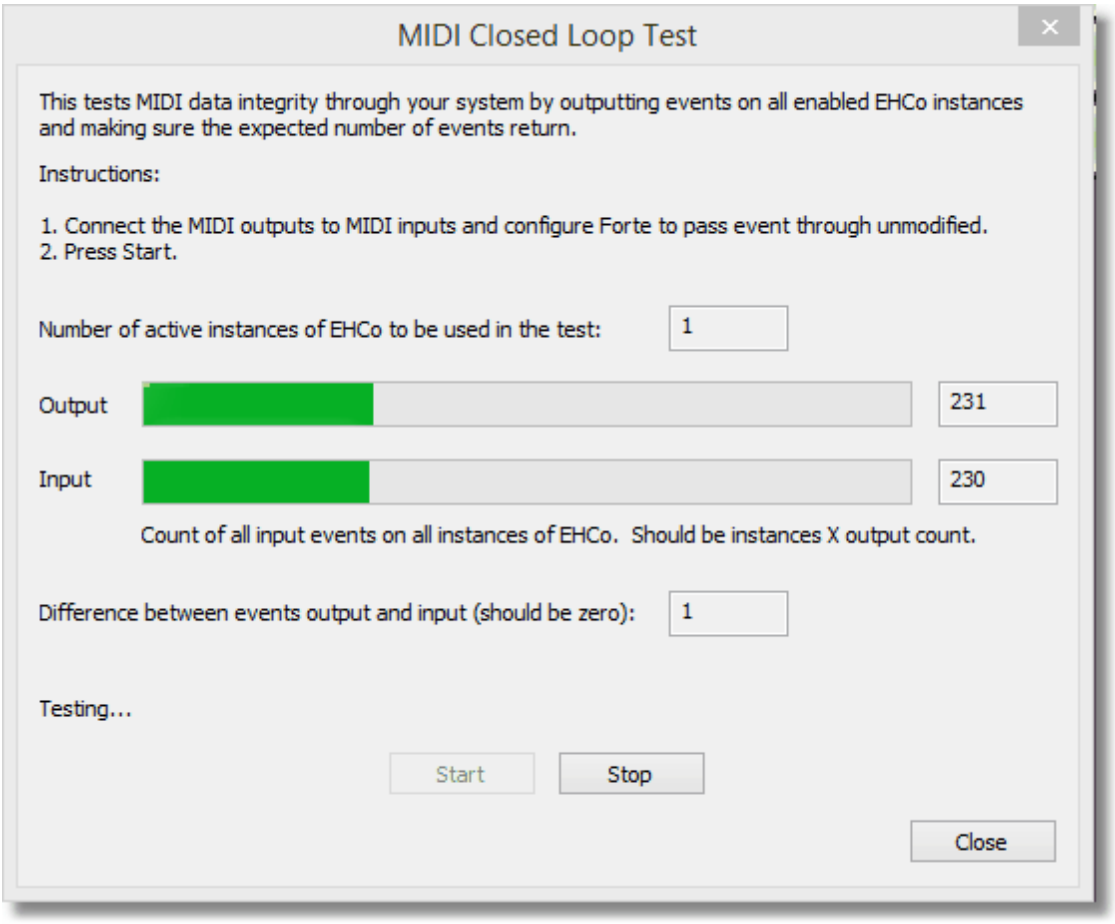
ability to import and export .SYX files.

15.6 MIDI Closed Loop Test


MIDI Closed Loop Test
This tests MIDI data integrity through your system by outputting events on all enabled EHCo instances and making sure the expected number of events return.
Instructions:
1. Connect the MIDI outputs to MIDI inputs and configure Forte to pass event through unmodified.
2. Press Start.
Number of active instances of EHCo to be used in the test:
1
Output
231
Input
230
Count of all input events on all instances of EHCo. Should be instances X output count.
Difference between events output and input (should be zero):
1
Testing...
Start
Stop
Close

This MIDI Closed Loop test enables you to test MIDI I/O integrity though your system. It emits MIDI event data (CC) and counts the number of MIDI responses.

In order to set up this test:

- Make sure no MIDI inputs are receiving events (e.g. nothing is emitting MIDI sync or other constant messages).
- Connect a MIDI output back to an input (e.g. MIDI Out A connected to MIDI In A).
- Press the Start button

EHCo will emit events and display a count of both transmitted and received events. This test will automatically restart as long as the final input count equals the output count. If an event is "lost" and the input count is less than the output count, the test will stop. Note that during the test, it is common to see a difference between input and output counts. The important thing is that when the output sequence is complete that the input count catch up during the quiescent period at the end of each run.

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16 Confidence Building Tools

Forte has a number of features designed to help you with diagnostics, endurance, and change control. Select one of these topics for more information.

- Stress Test 100
- Diagnostics Display 101
- Memory Information 102
- Configuration Manifests 103
- Automatic Backup 103
- MIDI Closed Loop Test (only with EHCo) 99

16.1 Stress Test

The capability to play virtual instruments in a live setting is based upon making a number of elements work together reliably:

- Computer Hardware and BIOS
- Operating System
- Soundcard and MIDI drivers from various sources
- Forte
- Virtual instruments of various technologies (VST, DXi, ReWire, etc.) from many vendors

Each of these elements can be a weak link that makes the system unreliable.
Each can interact with other elements in unexpected ways.

For this reason, Forte includes a built-in stress test to enable you to test all of the above working together in the same rack file for extended periods of time.

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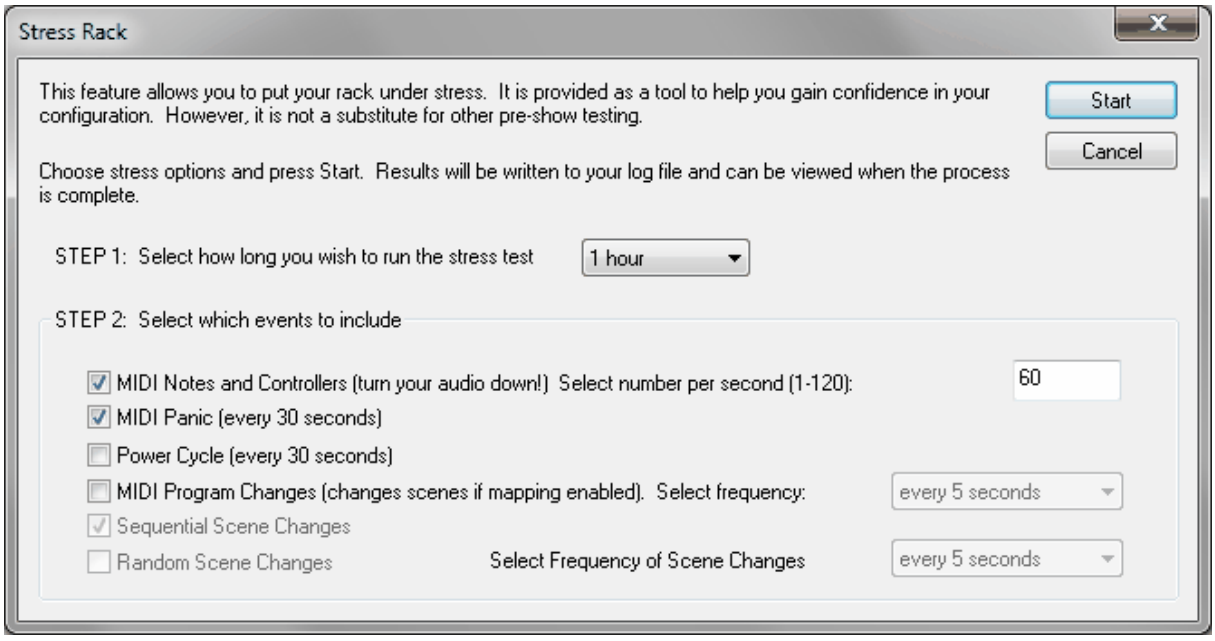
Stress Rack
This feature allows you to put your rack under stress. It is provided as a tool to help you gain confidence in your configuration. However, it is not a substitute for other pre-show testing.
Start
Cancel
Choose stress options and press Start. Results will be written to your log file and can be viewed when the process is complete.
STEP 1: Select how long you wish to run the stress test
1 hour
STEP 2: Select which events to include
MIDI Notes and Controllers (turn your audio down!) Select number per second (1-120):
60
MIDI Panic (every 30 seconds)
Power Cycle (every 30 seconds)
MIDI Program Changes (changes scenes if mapping enabled). Select frequency:
every 5 seconds
Sequential Scene Changes
Random Scene Changes
Select Frequency of Scene Changes
every 5 seconds

To start the stress test:

1. **Turn down or off all of your audio outputs!**
2. Load your performance Rack File.
3. Select Tools|Stress Rack… from the menu.
4. Select the length of time you wish to stress the rack. This can range up to 24 hours (this test is unattended, so you can start it and go do something else).
5. Select which events to include in the test and how frequently to send them.
6. Press Start.

You may stop the test before it completes by selecting Tools|Stop Stress from the menu.

When the test is complete, it will offer to open your log file. At the end of the log you will find information about scene change times, memory utilization over the course of the test, and CPU utilization in each scene.

NOTE: Although this stress test can be useful for finding weak links in your rack setup, we can never promise that it will result in a 100% stable live setup. There are simply too many variables. However, this stress test is certainly better than assuming everything will work.

16.2 Diagnostics Display

Use the Diagnostics display in the Tools menu to see a count of audio dropouts as well as total MIDI events in or out. Use this during a stress test. If you see the audio dropout counter incrementing, its a sign that something in the system is choking occasionally. This many not always be a big deal. It depends upon when the dropouts occur and your own particular usage.

The diagnostic display also includes a count of MIDI output errors for use with EHCo. If

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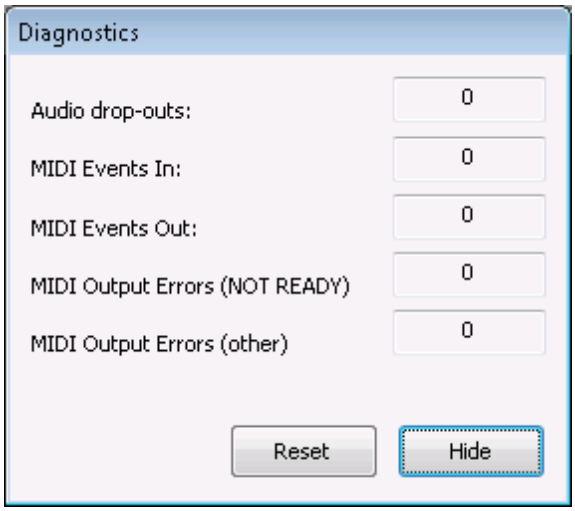
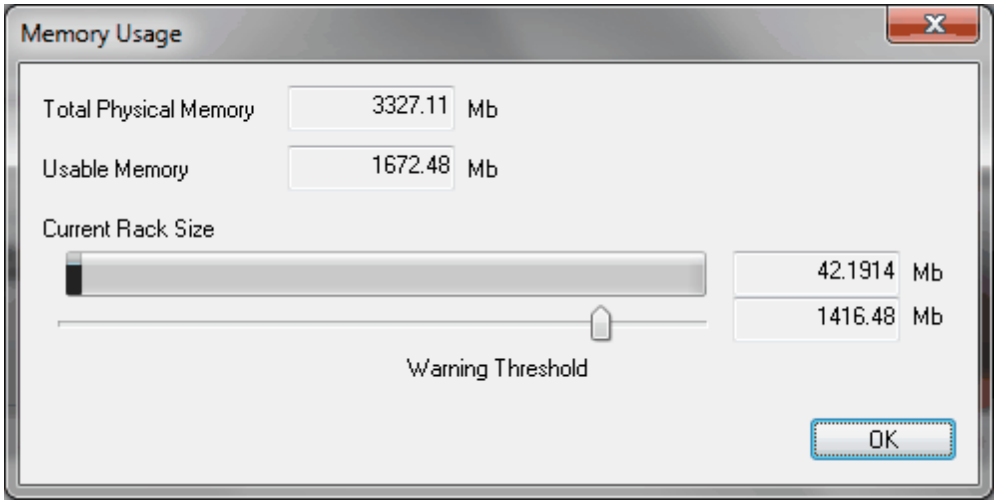
you suspect not all EHCo data is being transmitted correctly, the error counts can indicate errors returned from the MIDI output port driver.



16.3 Memory Information

Memory Information gives you information about how much memory your rack file is consuming and how much spare memory you have. If the required memory is greater than the Threshold, a warning will be displayed when the rack is loaded.



On 32 bit versions of Windows with 4GB of RAM, it is normal to see usable memory of only about 1500MB or so on an empty rack. The reason for this is that 32 bit Windows by default give each application only 2GB of memory. It is not a problem with Forte. About 500MB of that is loaded with the application and a large number of Windows DLL components. See this 115 to take advantage of a Windows configuration change that makes more memory available to Forte.

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16.4 MIDI Closed Loop Test (with EHCo only)

See here 103.

16.5 Configuration Manifests

Problem: A rack file once worked perfectly on your PC, but now it doesn't, or you've moved it to another PC and it doesn't work.

Use a configuration manifest to help diagnose the changes in your setup that may be affecting your Forte rig. Here's how:

Once your rack is working the way you want it to, select the new Tools menu item "Create Installation/Configuration Manifest". Answer "Yes" when asked to embed the manifest in your rack file. The next time you save your rack file, the manifest will be contained within it.

- A manifest is a snapshot of your configuration containing:
- A record of every DLL module (VST plugins, ASIO drivers, Windows components, 3rd party components) and its version
- Key configuration settings from OPTION.INI

When you have a problem, select the new Tools menu item "Validate Against Manifest" to create a difference report in your Windows clipboard. This can then be pasted into Notepad or other text editor to view. The difference report contains:

- A list of manifest items missing from the current configuration (e.g. DLLs)
- A list of manifest items in your current configuration that are not in the manifest
- Any manifest items that are different (e.g. DLL versions are different)
- Matching items

You may also copy the embedded manifest to the clipboard for examination with Tools|Copy Manifest to Clipboard, and delete the current manifest with Tools|Clear Manifest.

16.6 Automatic Backup

Whenever you save a rack, Forte can automatically copy the existing file to a backup copy. The backup copy file name is appended with a sequence number (e.g. "_1") and the file extension is changed from .rcf to .rcf_bk.

See Configuring Options and Preferences 103 to change how many backups are maintained.

17 Configuring Options and Preferences

You can change Forte's Program Settings by selecting Options|Program Settings… from the menu bar or by right-clicking on the Control Module and selecting "Settings." Settings

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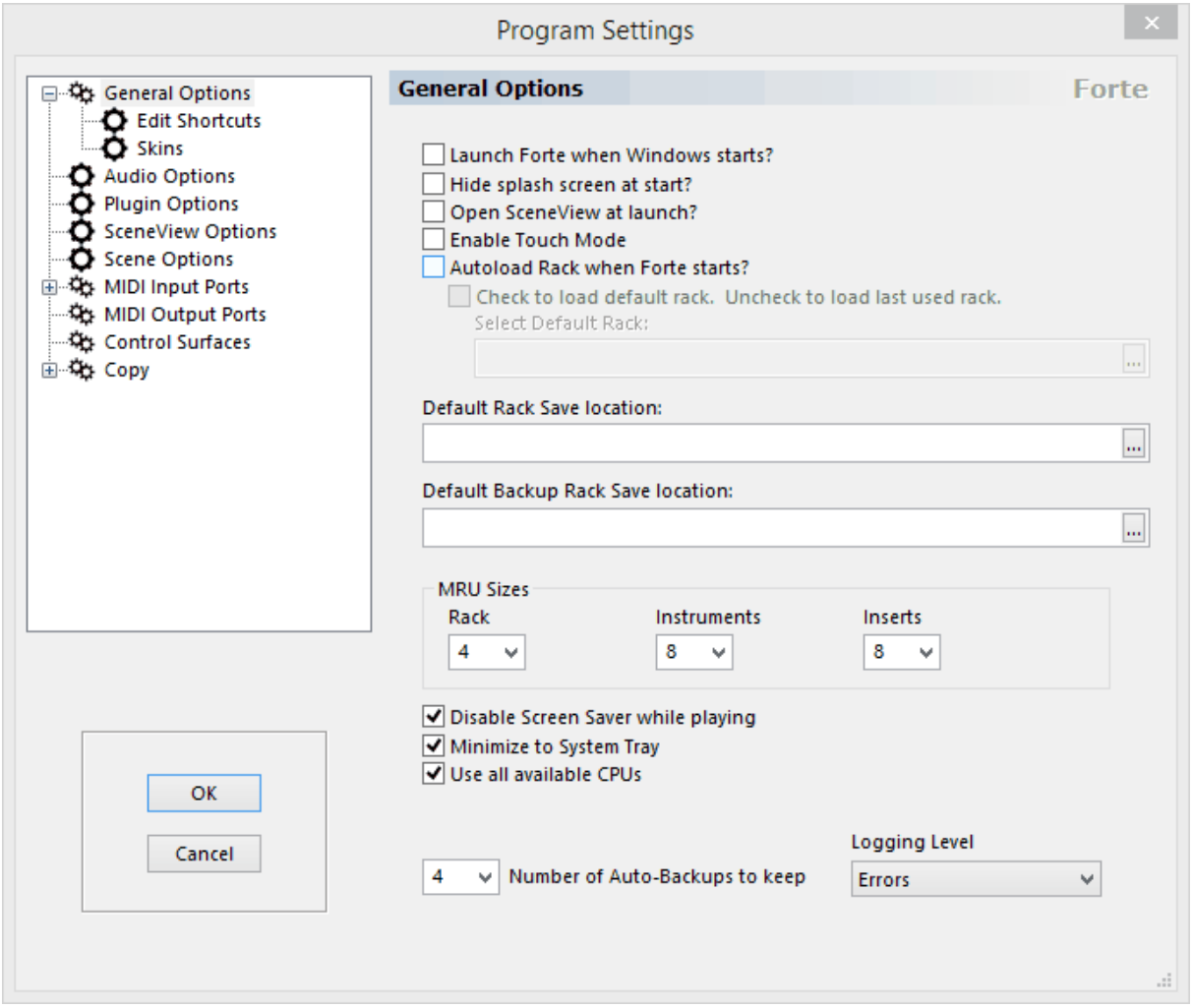
are divided into pages selectable on the left side of the window.

The first page of Preferences is "General Options" which affect miscellaneous configuration items:



- Launch Forte when Windows starts? – Select if you want to start Forte automatically when you log into Windows. For this to be useful, Windows should be configured to log in automatically.
- Hide splash screen at start? – Select if you do not want to see the splash screen at program startup.
- Open SceneView at launch? – Automatically shows the SceneView when a rack loads.
- Enable Touch Mode - If checked the scrolling behavior in SceneView 66 and Set Browser 70 are altered to be touch-friendly. If unchecked, scrolling uses the traditional scrollbar gestures.

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- Autoload Rack when Forte Starts? – Loads either the last used rack or a specified default rack when Forte starts.
- Default Rack Save location – Path used to save rack files.
- Default Backup Rack Save location – Path used to save backup rack files. The default is the same directory used to save the rack file.
- MRU Sizes – select how many racks, instruments, and inserts to keep in your most recently used lists.
- Disable Screen Saver while playing? – Disables any configured screen saver when the rack power is on.
- Minimize to System Tray – Choose whether Forte minimizes to an icon on the task bar or in the system tray.
- Use all available CPUs – This is a troubleshooting option which should remain checked. If you are using a multiple processor system and encountering problems, you can uncheck this option to see if it is related to multi-processing.
- Number of Auto-Backups to keep – Every time you save a rack file in Forte, it makes a backup to preserve the old file. The number of backups is configurable here.
- Logging Level – Configures the amount of information logged to the log file.

Automatic Forte Start on Logon: Compatibility issues with Windows User Account Control

NOTE: On Windows Vista and later, enhancements in UAC (User Account Control) may prevent Forte from starting correctly on Windows login. Forte requires runlevel = highest (a Windows privilege option) to be compatible with the widest variety of VST plugins. Forte uses a "Run" key in the Windows registry to cause itself to be launched on login, but depending upon your Windows configuration, this may not work as expected. The workaround for this is to create a task in the task manager that launches Forte on logon. Make sure "Run with highest privileges" is checked. A command line tool exists to create this task. As an example, the following could be run from an Administrator command line:

schtasks /create /tn "Run Forte on Logon" /tr "c:\program files\brainspawn \Forte 3 Producer Edition\forte.exe" /sc onlogon /rl highest

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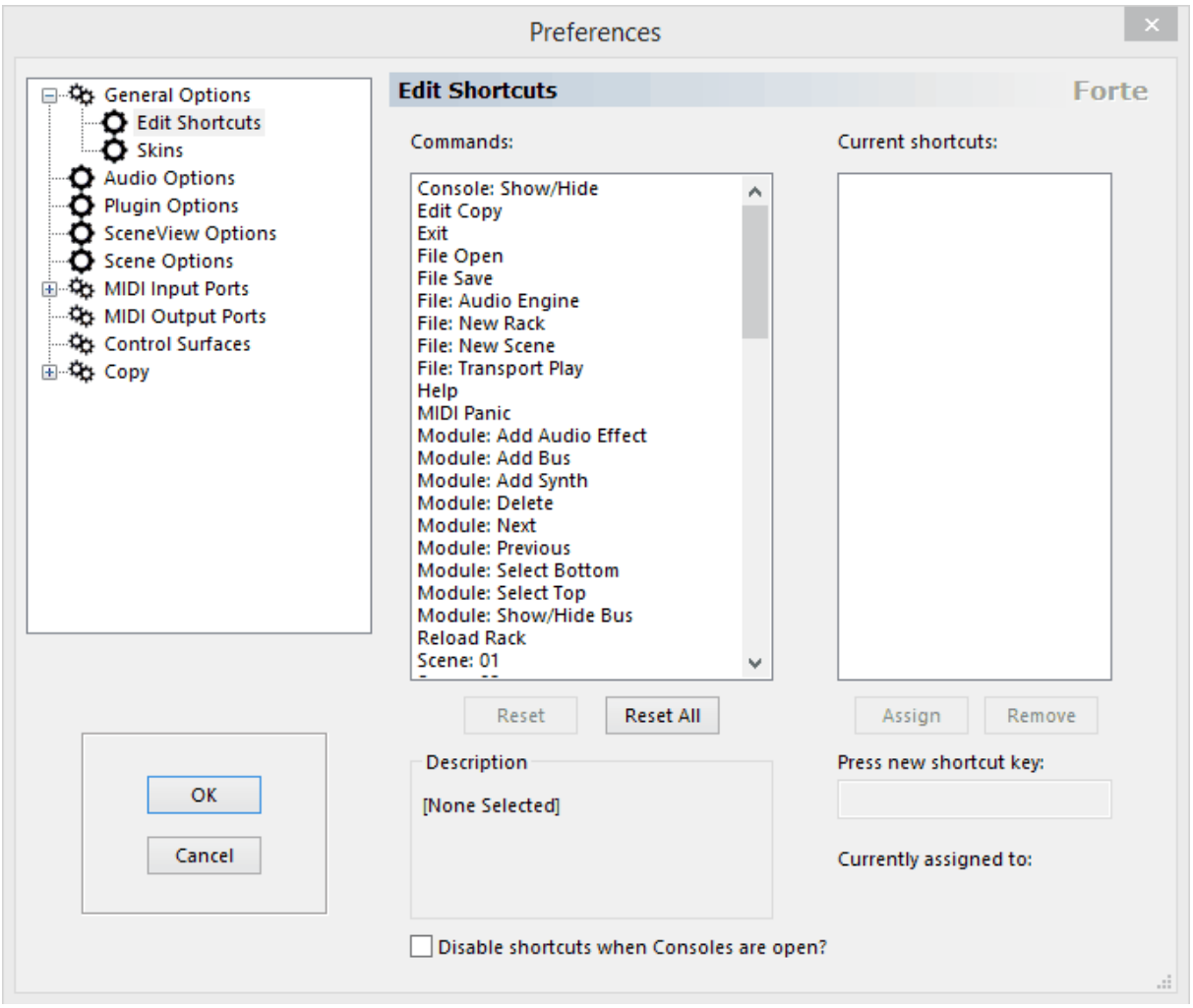
17.1 Edit Shortcuts



This page configures hot-key assignments. To assign a new hot-key:

- Select the function you wish to assign a key to
- Set the cursor in the 'Press new shortcut key' box and press the key you wish to assign to the function
- Press the Assign button

Check "Disable shortcuts when Consoles are open" to disable hot-key assignments when plugin consoles are open. This can solve problems where hot-key assignments conflict with plugin keystrokes.

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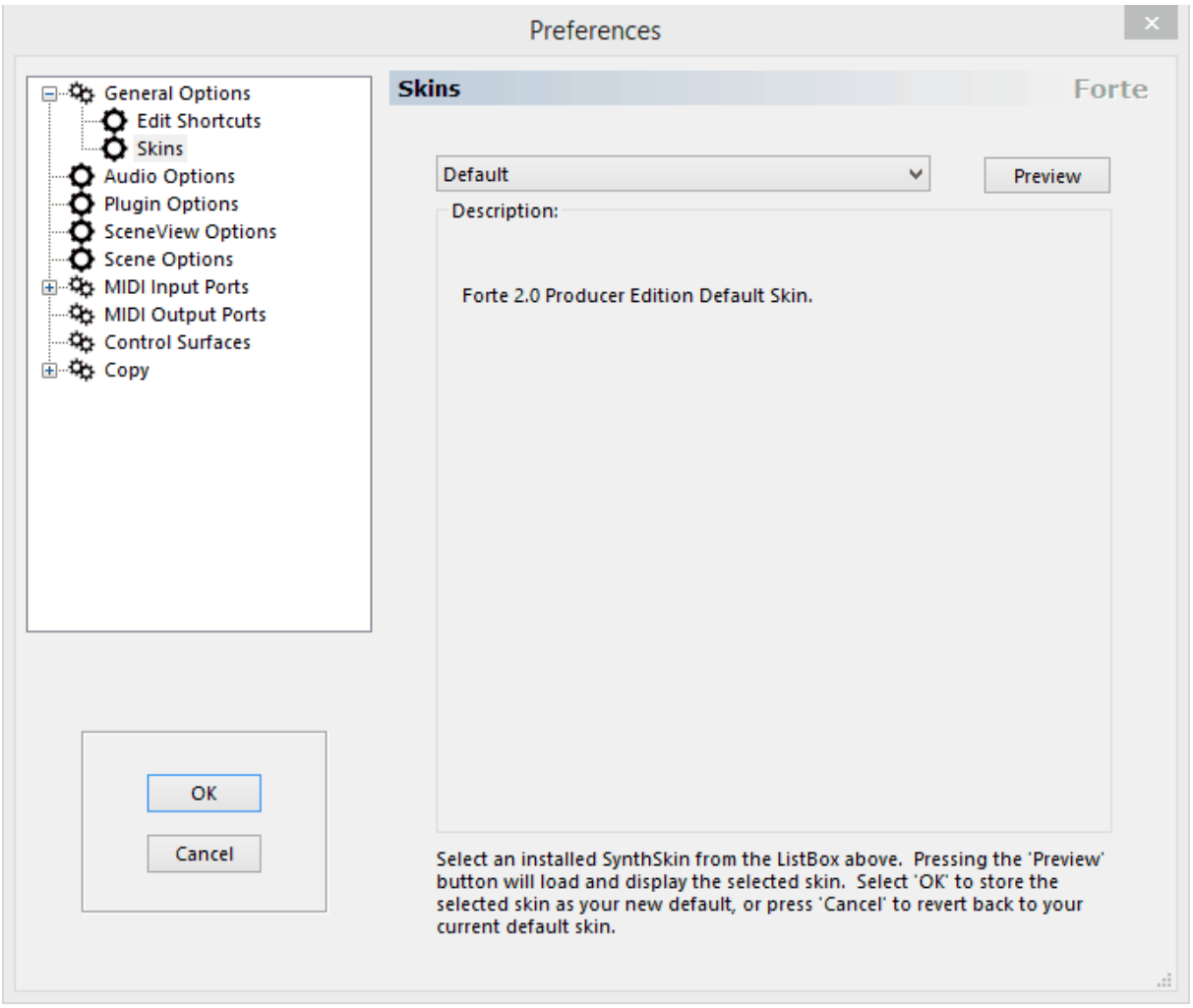
17.2 Skins



Forte supports skins which can be selected from this screen. For alternate skins, please visit www.brainspawn.com. For information on creating your own, please contact technical support.

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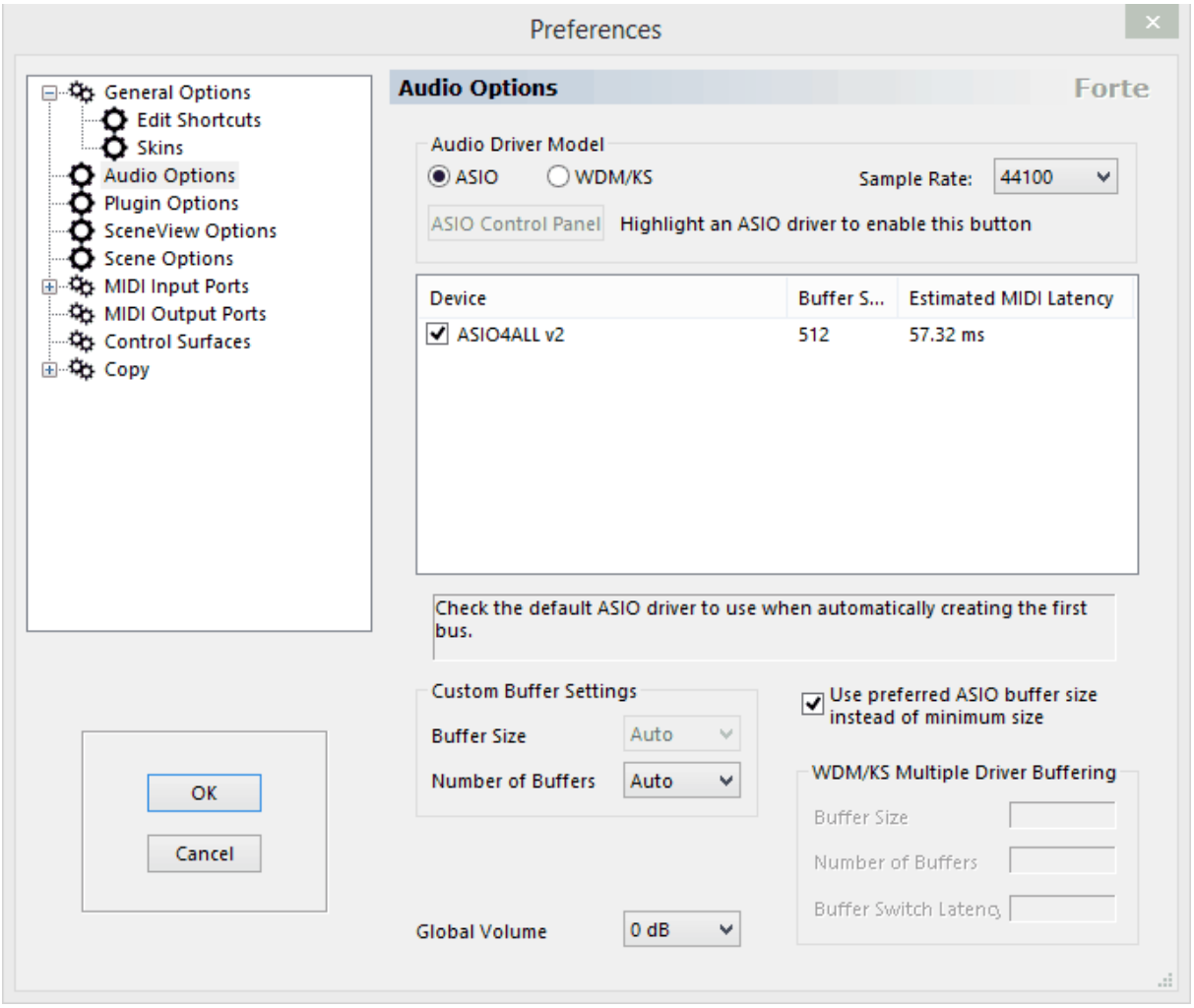
17.3 Audio Options



- Audio Driver Mode – WDM/KS or ASIO – This selection determines the audio driver mode. In ASIO mode, only one driver may be used at a time and the selection is made when the 1st bus in the rack is created. In WDM/KS mode, multiple drivers may be used simultaneously.
- Audio Sample Rate – Select the sample rate Forte will use to access your sound cards.
- ASIO Control Panel – Open the ASIO control panel.
- Device List (ASIO mode) – Shows all installed ASIO drivers. The check box indicates which ASIO driver will be used when you automatically create a bus when adding the first instrument.
- Device List (WDM mode) – Shows all WDM devices available to Forte. Each output may be enabled or disabled for use within Forte using the check box next to its name. A

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disabled output will not be available to assign to a bus and is not used when determining audio buffer sizes on start-up.

- Custom Buffer Settings – Configures the minimum size and number of buffers used. When both are set to "Auto", the configuration is automatically computed based upon enabled audio outputs. If you experience audio dropouts, try different settings here.
- WDM/KS Multiple Driver Buffering – Displays the current buffer size and number of buffers in WDM mode. Forte automatically computes the minimum buffer size when it starts based upon the enabled audio outputs and the Custom Buffer Settings described above. The Current Latency is the estimation of software latency based upon the current buffer configuration.
- Global Volume Trim – This gain adjustment is applied to each bus after all effects but before audio is sent to the sound card. It is applied at the same point the bus volume fader is applied.

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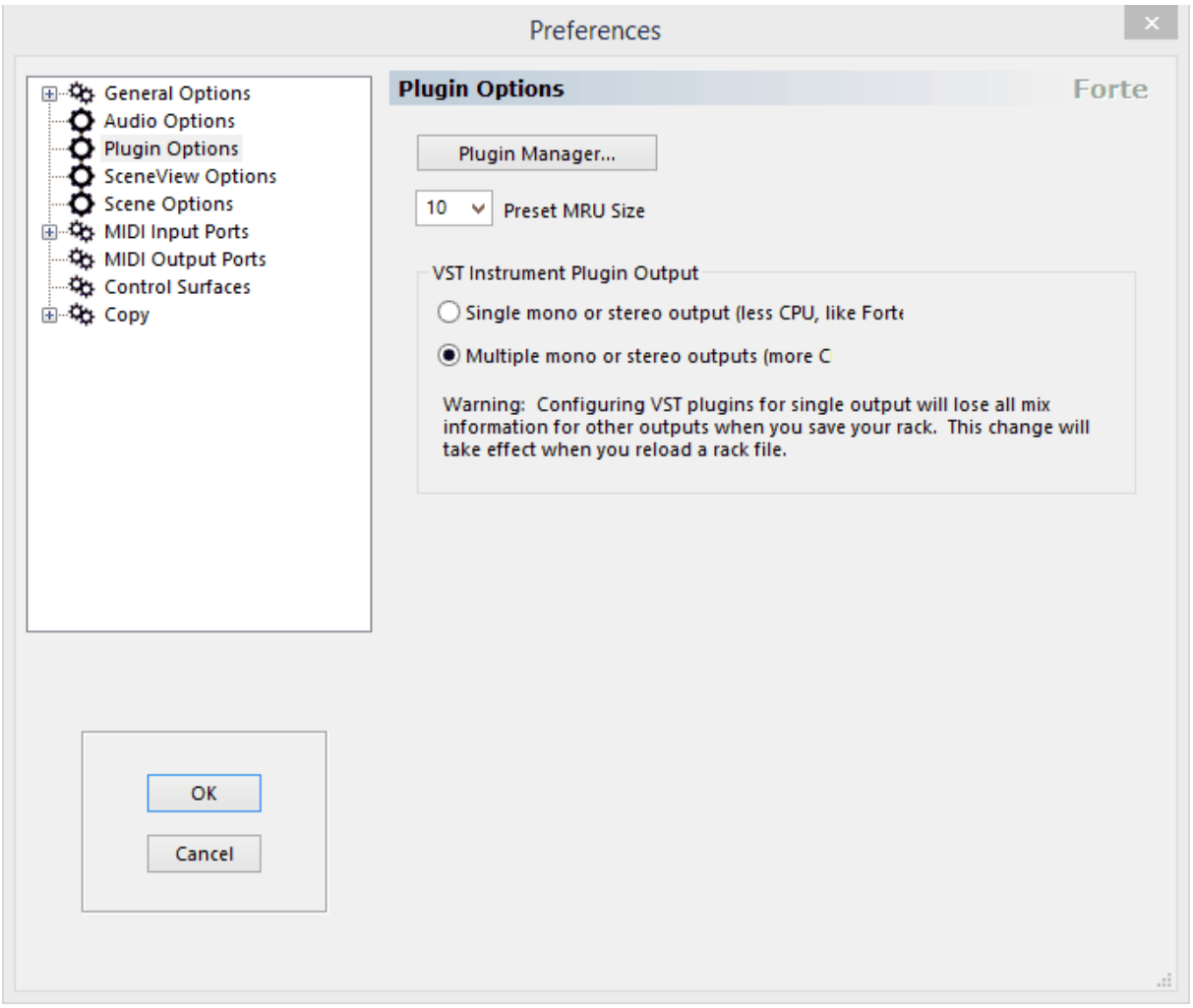
17.4 Plugin Options



The Plugin Options page enables you to set the number of "Most Recently Used" presets to track. It also has a button link to the Plugin Manager[33] to enable you to discover and organize plugins.

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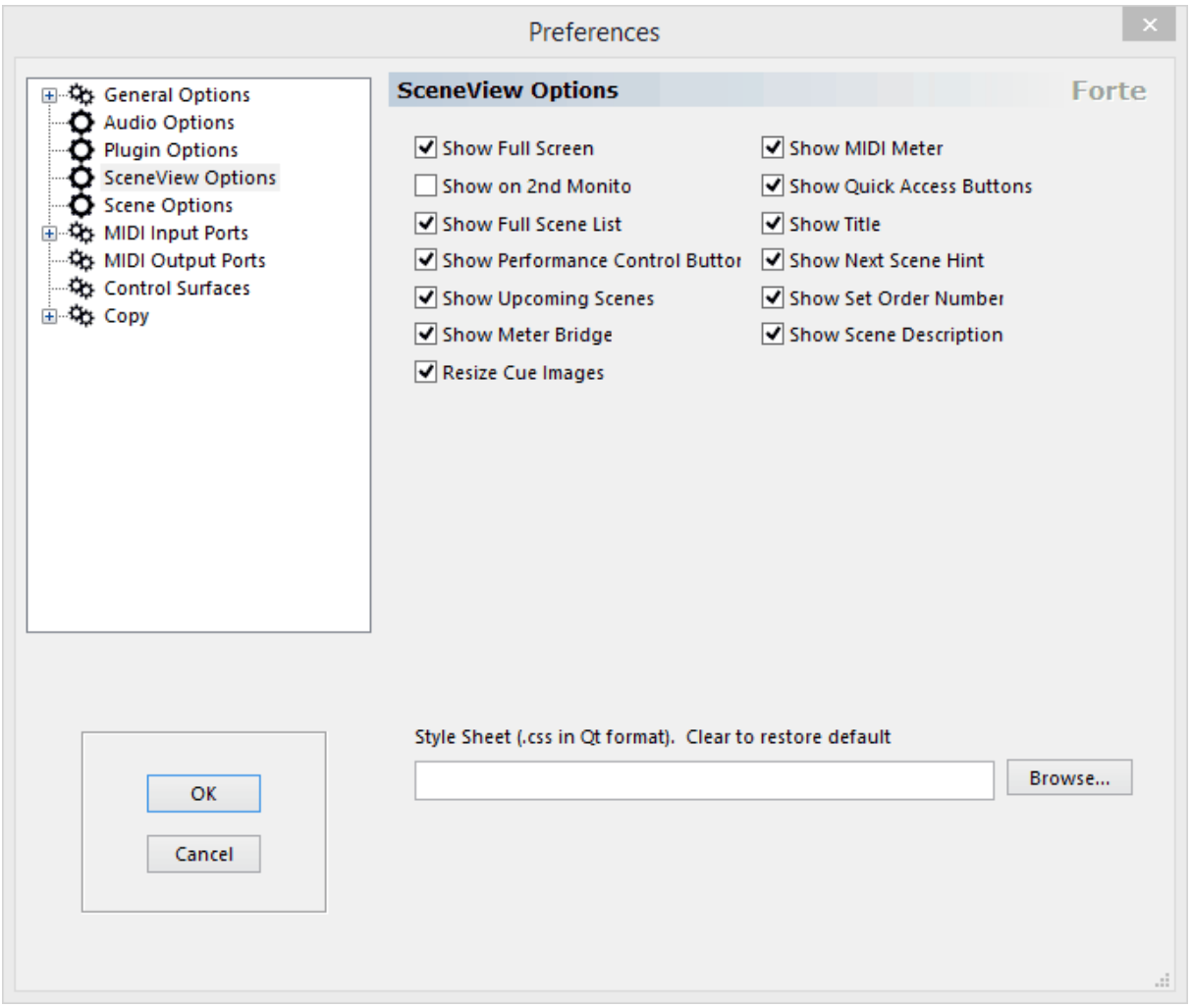
17.5 SceneView Options



The Style Sheet path control enables you to customize the look of SceneView using .css styles compatible with Qt Widgets. Examples can be found in your Forte install folder.

Changes to this page will take effect the next time SceneView is opened.

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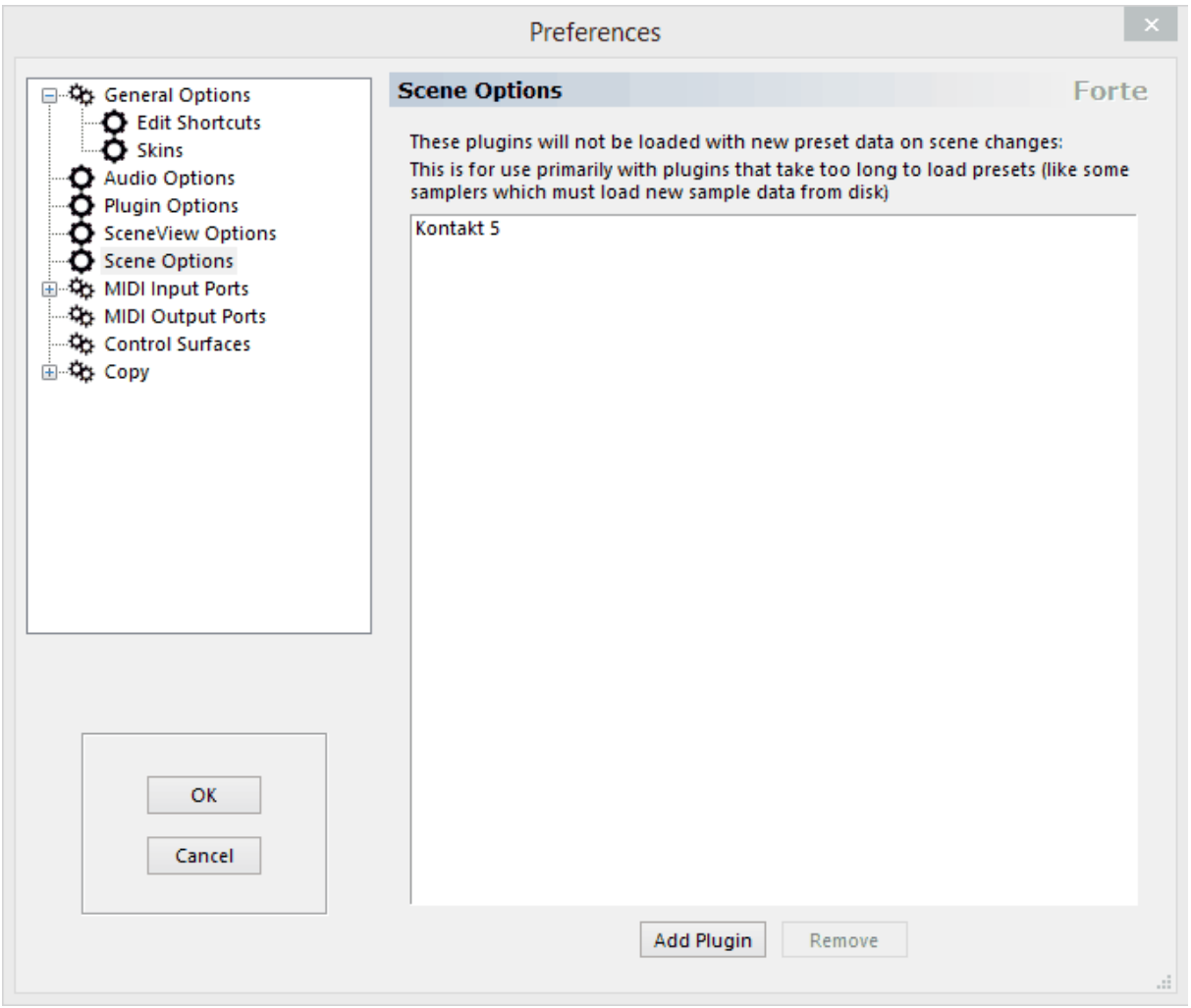
17.6 Scene Options



One of the most powerful features of Scenes is the ability to load each plugin in the rack with different data on each scene change. Some instruments, however, take a very long time to change configuration. A common example is soft-samplers which must load new sample sets from disk.

This page enables you to configure a list of plugins that will not be loaded with new data on scene changes.

For instance, you can include Kontakt in a rack, but if it is on this list, the sample set will not change between scenes. Instead, use MIDI routing changes between scenes to alter the output.

If an instrument is listed here, the configuration action specified in Scene Commands (see Scene Change Actions) is overridden to set configuration data only once when the instrument is loaded. This preserves the behavior of previous versions of Forte.

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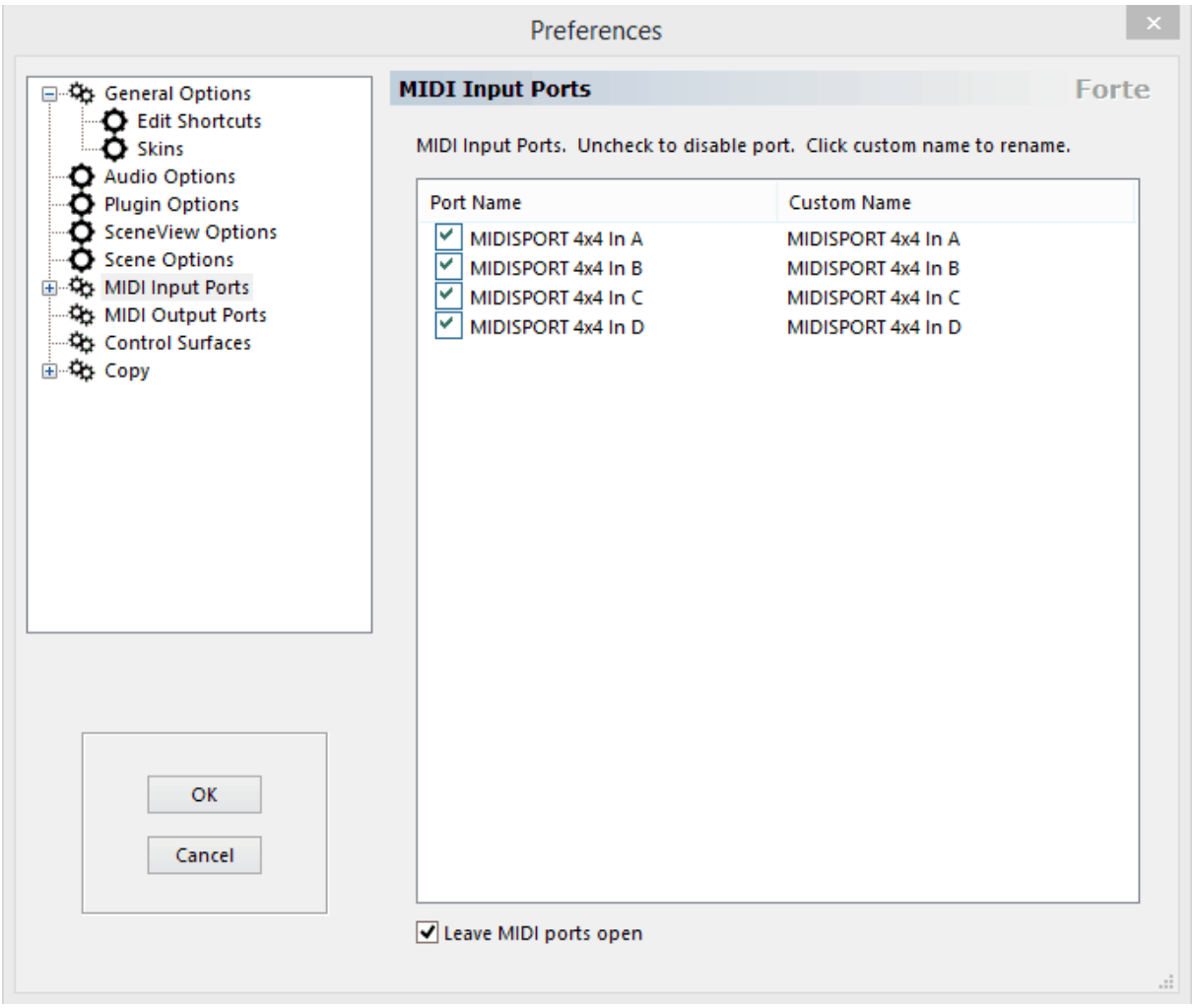
17.7 MIDI Input and Output Ports



- **Enable/Disable MIDI Input Ports** – Use this list to enable or disable MIDI input ports for use in Forte. If an input port is not checked in this list, it will not be opened for input and it will not be included in the MIDI Configurations list.
- **Custom Name** - You may assign each port a custom name by clicking in the custom name area. This is useful to rename ports according to what MIDI device is connected to them. It can also be used if you are moving racks between Forte installations. If port friendly names are the same, no MIDI port remapping is required. See MIDI Port Renaming 85 for details.
- **Leave MIDI ports open** – If checked, Forte will open MIDI input ports when started, but will not close them when rack power is turned off. It will always close ports when exiting. When unchecked, input ports will be closed when rack power is turned off.

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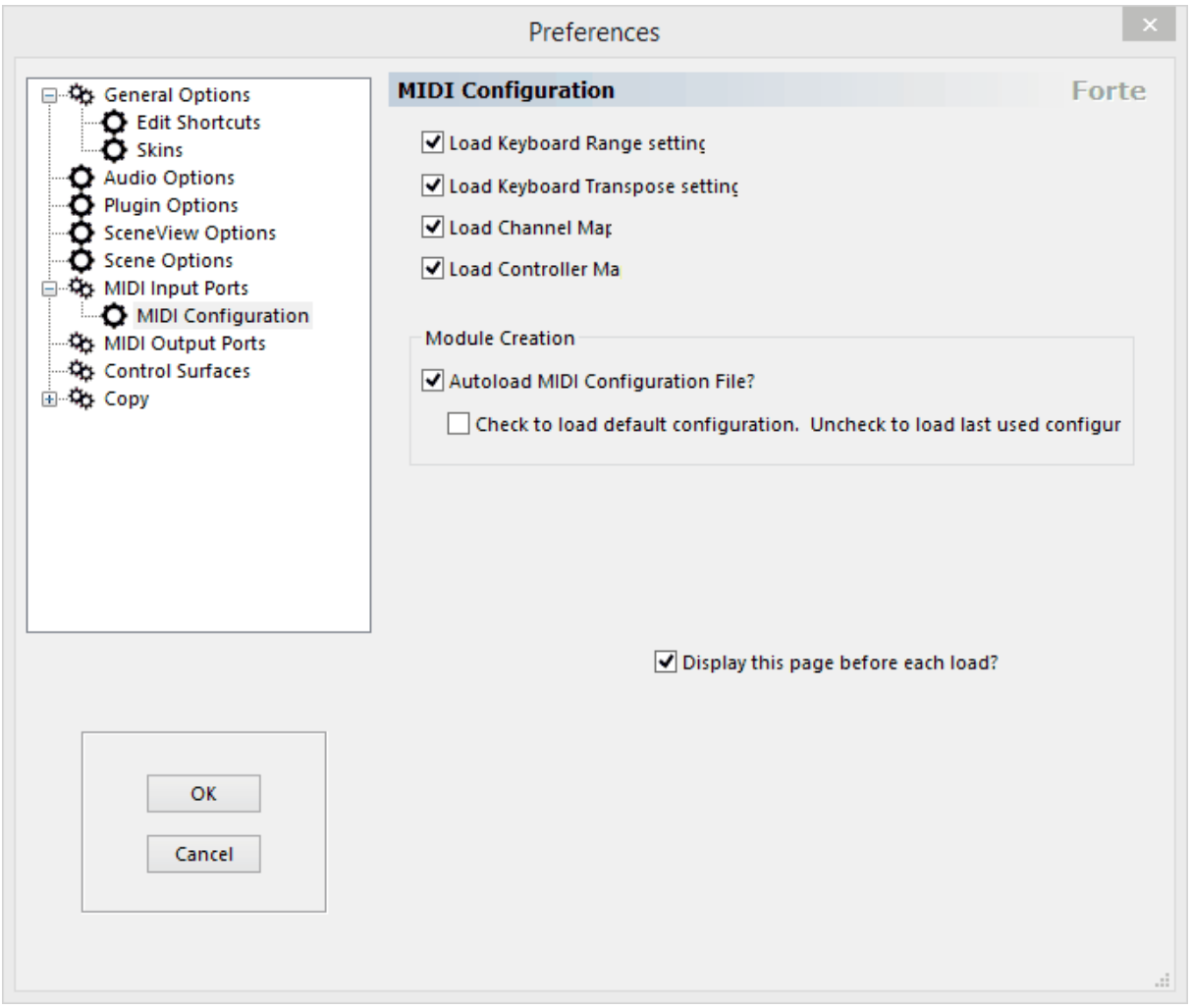
MIDI Output

If EHCo is installed Forte will display a similar Configuration display for MIDI Output Ports. See EHCo 92 for more details.

17.7.1 MIDI Configuration



This page configures which portions of a MIDI Configuration file will be used when you load a configuration file.

Instrument Module Creation options enable you to select the MIDI Configuration to use:

Autoload MIDI Configuration File unchecked to start with a generic configuration:
- All 128 MIDI keys are passed to the instrument
- No transpose
- No channels or controllers are remapped

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Autoload MIDI Configuration File checked to start with either a specified default configuration or the last used configuration.

17.8 Control Surfaces

See Configuring Control Surfaces for Use in Forte 85

17.9 Copy Options

See Copying Intruments 81 and Copying Buses 82.

18 Troubleshooting

It is important to understand that Forte, as a VST host, is part of a performance system that also includes your choice of PC, OS, plugins, and audio/MIDI interfaces. Brainspawn does not offer system integration services. Instead we have developed a number of tools to assist you in integrating a performance-ready system.

When assembling a performance rig, please use these tools to build confidence in your system.

Stress Test (Tools Menu)

The stress test tool in the Tools menu exercises your rig by simulating MIDI input and performing scene changes. You can configure the stress test to perform various operations and leave it running for hours. You can also pump more MIDI into your system via stress than you could ever by simply playing a keyboard.

If your live rig can survive indefinite amounts of stress, that is a good confidence builder. However, it is not any sort of "certification" of reliability. The primary value in the stress test is if it fails. If it fails (either a hang, or dropouts, or a crash, or a blue-screen, it positively indicates that a component of your system is not durable.

Be sure to turn your audio inputs down during stress tests. The output is decidedly not very musical!

See Stress Test 100

Diagnostics Display Shows You Audio Dropouts and MIDI Activity (Tools Menu)

Use the Diagnostics display in the Tools menu to see a count of audio dropouts as well as total MIDI events in or out. Use this during a stress test. If you see the audio dropout

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counter incrementing, its a sign that something in the system is choking occasionally. This many not always be a big deal. It depends upon when the dropouts occur and your own particular usage. See Diagnostics Display 101.

Memory Display Shows Available Memory (Tools Menu)

Use the Memory display on the Tools menu to see how much usable memory you have.

On 32 bit versions of Windows with 4GB of RAM, it is normal to see usable memory of only about 1500MB or so on an empty rack. The reason for this is that 32 bit Windows by default give each application only 2GB of memory. It is not a problem with Forte. About 500MB of that is loaded with the application and a large number of Windows DLL components. It is possible, using the /3GB switch in BOOT.INI (search the Microsoft support site for specifics) to allocate 3GB to each application.

See Memory Information 102.

DPC Latency Checker Shows Device Driver Behavior

DPC Latency Checker is not a Brainspawn tool. It is a free download from www.thesycon.de/deu/latency_check.shtml 13. Run this tool and verify you can get "green" results. This indicates your OS drivers are behaving well for real-time audio. Use this in combination with the Diagnostics display and the Stress test.

Another tool recently recommended is "LatencyMon" at www.resplendence.com/latencymon.

Safe Mode is Useful for Narrowing Down Problem Plugins

Start Forte in Safe Mode 121 by holding down the left CTRL key while clicking on the icon. You will be given the opportunity to "exclude" certain plugins from this run of Forte. If you load a rack with plugins excluded, they will be replaced by proxies (which are just internal placeholders). By excluding plugins, you can narrow down problems to specific plugins.

REMEMBER: In safe mode, the rack is not automatically enabled for streaming - you must press the rack power button to start

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Configuration Manifests Show You What Changed (Tools Menu)

Problem: A rack file once worked perfectly on your PC, but now it doesn't, or you've moved it to another PC and it doesn't work.

- Use a configuration manifest to help diagnose the changes in your setup that may be affecting your Forte rig. Here's how:
- Once your rack is working the way you want it to, select the new Tools menu item "Create Installation/Configuration Manifest"
- Answer "Yes" when asked to embed the manifest in your rack file. The next time you save your rack file, the manifest will be contained within it.
- A manifest is a snapshot of your configuration containing:
  - A record of every DLL module (VST plugins, ASIO drivers, Windows components, 3rd party components) and its version
  - Key configuration settings from OPTION.INI
- When you have a problem, select the new Tools menu item "Validate Against Manifest" to create a difference report in your Windows clipboard. This can then be pasted into Notepad or other text editor to view.
- The difference report contains:
  - A list of manifest items missing from the current configuration (e.g. DLLs)
  - A list of manifest items in your current configuration that are not in the manifest
  - Any manifest items that are different (e.g. DLL versions are different)
  - Matching items

You may also copy the embedded manifest to the clipboard for examination with Tools|Copy Manifest to Clipboard, and delete the current manifest with Tools|Clear Manifest.

See Configuration Manifests 103

Common Advice for Plugin Problems

Use Single Threaded Mode (Preferences Menu)

Forte uses different threads for different plugins, and sometimes plugins cannot handle this. Go into preferences and uncheck "Use all available CPUs" and restart Forte. This will use only one CPU core/thread for all streaming. You will waste CPU capacity, but it has been known to help with some plugins.

Use "Disconnect on Scene Change" (Scene Commands Tab)

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Scene changes can be complicated times for plugins. Right in the middle of processing both audio and MIDI, they are asked to completely reconfigure their sound. A Scene change typically causes a new VST "chunk" (FXB or FXP data block) to be downloaded into the plugin. Some plugins have a hard time with this. Try disconnecting the plugin during scene changes. On the Scene Commands tab of the plugin console, check the "Disconnect this instrument when loading configuration data." box.

Don't Download new plugin data on Scene Change (Scene Commands Tab)

You can also check the box "Do not use per-scene configuration data" to avoid having a new VST chunk downloaded during a scene change. This is especially recommended for sampler plugins. In this case, the plugin will remain configured the same during the entire set, but you can send program changes to it on scene change. This is much more light-weight. All this is configured on the Scene Commands tab.

Run Forte in Administrator Mode

Some plugins can't be discovered or don't behave correctly on Windows Vista or Windows 7 unless Forte is running with Administrator privileges. Right click on the Forte shortcut and configure it to always run as administrator.

Change the Device Compatibility file

Forte tries to make a good decision about how to get and set VST configuration (chunks or FXB/FXP data). However, sometimes a plugin wants something different to get or set its entire state. Forte has a way to override scene capture and recall behavior for individual plugins. A file called "DeviceCompatibility.xml" in the install directory contains plugin-specific settings which can override the default behavior. Plugins are referenced in this file by either CLSID or VST ID. If your favorite plugin does not correctly restore its settings on scene change, add it to this file. Note that this MUST be a valid XML file in order for the feature to work. See Plugin Compatibility Fixes (DeviceCompatibility.xml) 120.

Diagnosing Crashes and Freezes

Forte Crashes

Forte crashes are usually accompanied by an offer to submit a crash report. Please do so if at all possible. Crash dump files are essential to finding and fixing crashes within the Forte application itself.

Plugin-caused Crashes

If a crash happens within a VST plugin, you will usually get a VST crash handler, which

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displays: Forte version Plugin version Plugin vendor (if known) The action Forte was attempting with the plugin when the crash occurred Please report this to the plugin vendor first. If the plugin vendor believes this is a Forte issue, have them contact Brainspawn.

If the plugin-crash occurs during Scene change or plugin data load, you may also use the SingleStepVSTPluginLoad troubleshooting option to narrow down the specific data that is causing the crash. See OPTIONS.INI File 122 for details.

If a plugin crashes during scene capture or update, you may try settings StopAudioDuringSceneCapture = 1 in OPTIONS.INI 122.

Blue Screen Crashes

Blue Screens are ALWAYS a result of a defective device driver. Typically this will be an audio driver, a MIDI driver, or a software protection device driver.

Freeze/Hang

If Forte freezes during an operation, work to identify if the condition can be consistently reproduced, then try the following Start in Safe Mode (launch Forte while holding down the left CTRL key) and exclude some of the plugins - reload the rack file and see if the hang can be reproduced. Retry as necessary until you narrow the hang to a specific plugin. Start Task Manager (or Process Explorer at http://technet.microsoft.com/en-us/sysinternals/bb896653.aspx) and see if the CPUs are 100% busy. Open the Diagnostics display in the Tools menu and see if the dropout count in increasing during the freeze. Make sure you don't have a MIDI feedback loop

Forte Log File

Forte maintains a log file that has adjustable levels of output. It is located in your application data directory under brainspawn forte. You can also conveniently access it using the menu command Tools|Log File|View... which will open it in notepad. You can adjust the output levels in Preferences Logging Level. The levels are Silent, Errors (default), Warnings, or Information.

If you are having a problem finding an audio driver or plugin, or any other type of startup problem, you can sometimes find useful information in the log file. Sometimes you will need to adjust preferences to change the logging level to Information, and restart Forte before viewing the log. The log will contain detailed information about what Forte did during startup.

Using 3GB with 32 bit Windows

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It is possible to increase the amount of virtual memory Windows allocates to user programs such as Forte. By default Windows allocates up to 2GB of virtual memory for each running application.

If you are running Windows XP, use the /3GB switch in BOOT.INI (search the Microsoft support site for specifics) to allocate 3GB to each application.

For Windows Vista or later, run ***cmd.exe*** as an administrator, and enter

bcdedit /set IncreaseUserVa 3072

and restart the computer. To disable the switch, enter
bcdedit /deletevalue IncreaseUserVa

Autostart Forte on Windows Logon

NOTE: On Windows Vista and later, enhancements in UAC (User Account Control) may prevent Forte from starting correctly on Windows login.

Forte requires runlevel = highest (a Windows privilege option) to be compatible with the widest variety of VST plugins. Forte uses a "Run" key in the Windows registry to cause itself to be launched on login, but depending upon your Windows configuration, this may not work as expected. The workaround for this is to create a task in the task manager that launches Forte on logon. Make sure "Run with highest privileges" is checked. A command line tool exists to create this task. As an example, the following could be run from an Administrator command line:

schtasks /create /tn "Run Forte on Logon" /tr "c:\program files\brainspawn\Forte 3 Producer Edition\forte.exe" /sc onlogon /rl highest

18.1 Plugin Compatibility Fixes (DeviceCompatibility.xml)

Forte tries to make a good decision about how to get and set VST configuration (chunks or FXB/FXP data). However, sometimes a plugin wants something different to get or set its entire state. Forte has a way to override scene capture and recall behavior for individual plugins. A file called "DeviceCompatibility.xml" in the install directory contains plugin-specific settings which can override the default behavior. Plugins are referenced in this file by either CLSID or VST ID. If your favorite plugin does not correctly restore its settings on scene change, add it to this file. Note that this MUST be a valid XML file in order for the feature to work.

An typical example entry would be:

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```
<Device Name="KarmaFX">
        <saveFXB bool="1"/>
        <saveFXP bool="0"/>
        <saveProgramNumber bool="0"/>
        <saveParams bool="0"/>
</Device>
```

This instructs Forte how to save scenes, not restore them, so you must restart Forte, reload your rack, and recapture your scenes.

The entry is defined by the Device tag. Plugins can be identified in several ways:

- **Name**="<partial case-insensitive plugin name>" - affects any plugin that matches the plugin name
- **Name**="<partial case-insensitive plugin vendor name>" - affects any plugin by a vendor
- **CLSID**="<a big string of letters and numbers>" - affects a specific plugin. A CLSID is how Forte unambiguously identifies a plugin. This value matches the value Forte uses to identify the plugin in its plugin cache file (plugins.xml).

The flags that be used within a Device element include:

- **saveFXB** - if 1, save an FXB chunk with a scene
- **saveFXP** - if 1, save an FXP chunk with a scene
- **saveProgramNumber** - if 1, save the VST program number with a scene
- **saveParams** - if 1 save the VST parameters with a scene (typically only effects would use this option)
- **isVSTi** - if 1 forces a plugin to be identified as an instrument plugins. This is useful for example with Guitar Rig which is an effect plugin, not an instrument, but since you would typically want it to have its own module and be fed by audio input, you can force it to be treated as an instrument.

18.2 Safe Mode

Safe Mode is a troubleshooting tools that disables certain convenience behavior in Forte.

To start Forte in Safe Mode, you may start Forte from the "Forte (safe mode)" Start Menu item or hold down the left CTRL key while clicking on the icon. Forte will automatically ask you if it should start in safe mode if it exited abnormally the previous time it ran.

Safe Mode alters Forte's behavior in the following ways:

- Disables the automatic crash reporting tools
- Presents a dialog box to disable some or all plugins during this run. This is useful if you believe a plugin is causing a problem. Excluded plugins are replaced with proxies (simulated place holders) during rack load
- Disabled automatic rack load feature
- Does not automatically start the audio engine

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- Stops at the profile selection dialog regardless of the timeout mode (Producer Edition only)

18.3 Moving From 32 bit to 64 bit Forte (VST Plugins)

Background

Forte identifies all plugins by a unique identifier called a CLSID. The CLSID of a plugin can be found in the plugins.xml cache file and it looks something like {305B2033-9E2D-4FF1-A6D4-6930EC21AB26} but is different for each plugin.

CLSIDs were originally a unique identifier for DirectX (and DirectShow) plugins. For VST plugins, Forte created a CLSID by hashing together the plugin's VST ID value with the plugin's DLL name and combining the result with a standard fragment of CLSID {xxxxxxxx-9E2D-4FF1-A6D4-6930EC21AB26}.

This has always worked well except that many plugin vendors deliver the 32 bit and 64 bit plugins with the same VST ID but using different DLL filenames. This unfortunately results in different generated CLSIDs. For instance, the CLSID generated by 32 bit Forte uses the 32 bit DLL plugin name and the 64 bit uses the other DLL plugins name, resulting in different CLSIDs, which if not accounted for makes it impossible to load some rack files built in 32 bit Forte into 64 bit Forte.

Plugin Cache (plugins.xml and plugins64.xml)

Forte keeps track of discovered VST plugins in a "cache" file called plugins.xml (for 32 bit) and plugins64.xml (for 64 bit). The Forte installer will attempt to migrate the Forte 2 plugins.xml cache file if it is available and a Forte version doesn't already exist. This means that in most upgrades from Forte 2 or 3 (32 bit) to 64 bit, a 32 bit plugins.xml file will be available to 64 bit Forte as well as its own plugins64.xml.

Forte 64 bit will load its plugins64.xml cache normally, but will also scan the "alternate" plugins.xml file for information about potential substitutions. If you load a 32 bit rack file into Forte 64 and it doesn't have a particular CLSID (because that CLSID was generated in 32 bit Forte), it will replace the plugin with the 64 bit version of the VST plugin if it shares the same VST ID.

For this feature to work, a 32 bit plugins.xml file must be available in the same location as plugins64.xml.

When installing 64 bit Forte, make sure you either select the option to migrate Forte 2 data, which will copy the plugins.xml from the Forte 2installation folder to the new Forte folder. Alternately, you may copy the plugins.xml file into the Forte installation folder manually.

18.4 OPTIONS.INI File

NOTE: This section is for advanced users only and involves editing the options file manually

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Forte options are stored in a text file call OPTIONS.INI using traditional Windows-style ".ini" formatting. OPTIONS.INI is located in the user's application data folder. This folder has been located in different places in different versions of Windows. As of Windows 7, it is in the C:\Users\<username>\AppData\Roaming\brainspawn\forte 3 folder. A handy way to access this folder is to start Forte and select the menu command "Tools|View INI Files and application data folder" which opens the folder for easy access.

OPTIONS.INI has several [sections]. Many of the settings are configured via the Options|Program Settings 103 display. However, sometimes certain advanced troubleshooting options are settable by directly editing OPTIONS.INI. This section defines some useful troubleshooting options. Often the option does not exist in OPTIONS.INI by default, which means it takes its default state. To enable an option, navigate OPTIONS.INI to the specified section (the text with the [brackets] around it) and add or edit the line of text containing the option name and the "=" sign. After using a troubleshooting option, you may turn it back off by simply removing it or switching its 1 or 0 state. ***You must restart Forte after saving OPTIONS.INI for option changes to take effect.***

[Troubleshooting]
SingleStepVSTPluginLoad = 0 (disabled, default) or 1 (enabled)

If SingleStepVSTPluginLoad = 1, Forte prompts you before each step of sending data to a VST plugin during scene load. You may skip a step by selecting "No" on the dialog box. The data to be loaded is logged to the log file before loading into the plugin and is also logged if skipped. If a load operation causes the plugin to crash, the immediately preceding data item is probably to blame, and the raw content of the data is available in the log file. The log file is called "Forte.log" in the same folder as OPTIONS.INI. See Log File 124 for more information.

Audio Options

[Audio]
StopAudioDuringSceneCapture = 0 (don't stop/restart audio, default) or 1 (stop/restart audio engine during scene capture or update)

If you encounter issues with plugins during scene capture or update, you may try setting this value to 1. When set to 1, Forte will stop the audio engine during scene capture and restart it if needed when complete.

[Audio]
RestartAudioOnMIDIPanic = 0 (don't stop/restart audio, default) or 1 (stop/restart audio engine during MIDI Panic)
RestartMIDIOnMIDIPanic= 0 (don't stop and restart MIDI Ports, default) or 1 (stop and restart MIDI Ports during MIDI Panic)

MIDI Meter

The following MIDI Meter options enable highly specialized uses of the MIDI meter:

[SceneView]
SceneViewFavorSceneNames = 0 (default) or 1. If 0 when using single-scene songs,

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the song name will be displayed in SceneView. If 1 when using single-scene songs, the scene name will be displayed in SceneView
StretchBackgroundImage = 0 (default) or 1. If 1, stretches background images to fit screen

SceneView

The following options alter the appearance of SceneView:

[SceneView2]
SceneViewMIDIMeterCCMin = 0 (minimum scaled value of MIDI meter in SceneView)
SceneViewMIDIMeterCCMax = 127 (maximum scaled value of MIDI meter SceneView)

If missing the defaults are 0-127. However if you set max = 20, the displayed MIDI meter range will be from 0-20.

Trim_Delay_Ms = number of ms to delay between scenes during Trim operation (default = 0)

VST Plugin Options

The following VST plugin options are available:

[VST]
CreateSeparateJBridgedVSTs = 0 or 1
default = 0. 1 = create a jBridged version of every VST plugin during scan and treat it as an alternate, separate plugin. This is the behavior of Forte 3 when the "***Use jBridge***" checkbox is checked in Plugin Manager.

18.5 Log File

Forte stores a log of useful information in a text file call FORTE.LOG. FORTE.LOG is located in the user's application data folder. This folder has been located in different places in different versions of Windows. As of Windows 7, it is in the C:\Users \<username>\AppData\Roaming\brainspawn\forte 3 folder. A handy way to access this folder is to start Forte and select the menu command "Tools|View INI Files and application data folder" which opens the folder for easy access.

The Log file by default only stores warnings and errors. You may select a higher level of logging in Options|Preferences|General. See Logging Level[103] for more information.

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19 Menu Reference

File

New Rack/ Scene/ Module/ Bus	Ctrl + R Ctrl + E Ctrl + Insert	Closes any currently loaded rack (prompting to save if necessary) and creates a new empty rack. or Creates a new scene in the current rack or Creates a new instrument or bus in the current rack
Open...	Ctrl + O	Closes any currently loaded rack (prompting to save if necessary) and opens a different rack.
Import Songs or Scenes...		Imports songs or scenes from a different rack into the current rack. See Importing Songs and Scenes from other Racks (64).
Save/ Save As...	Ctrl + S	Saves the current rack
Trim Rack...		Updates all scenes in the current rack. This can be handy for removing unused data from a rack file. See Trimming Racks (82).
Audio Engine	Ctrl + P	Play or stop the audio engine
Transport Play	Ctrl + T	Start or stop the Transport Play
Recently loaded rack files		a list of recently opened rack files
Exit	Ctrl + X	Exit Forte

View

SceneView		Displays SceneView

Options

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Program Settings...	Displays Forte Preferences. See Configuring Options and Preferences 103
Skins...	Displays the Skins page of preferences.
Control Surfaces...	Displays the Control Surfaces page of preferences. See Control Surfaces 115
Rehearsal Mode	Prompts you before you change scenes in case changes need to be updated first. This should never be used in performance.

Tools

View INI Files...	Opens Windows Explorer at the folder containing Forte INI and other support files
Log File Email/ Reset/View	Email Forte log file, reset the contents of the log file, or open the log file in Notepad for viewing.
Create Installation/ Configuration Manifest...	Capture Forte manifest information and optionally embed it in the current rack file for later comparison. See Configuration Manifests 103 .
Validate Against Manifest	Compares a new manifest against a manifest created previous and stored in the rack file. See Configuration Manifests 103.
Copy Manifest to Clipboard	Copies the current manifest to the Windows clipboard. See Configuration Manifests 103.
Clear Manifest	Clears any manifest from the rack file. See Configuration Manifests 103.
Manage VST Plugins...	Start VST plugin manager to find plugins. See Plugin Manager 33.
Rack Editor...	Displays the rack editor. The rack editor enables you to see your rack in an alternate way by plugin, instead of by scene. See Rack Editor 73.
Change Hardware Profile...	Create a new hardware profile for this rack. This can be used to swap MIDI port assignments by creating a new rack and mapping existing ports to alternates. See Hardware Profiles 83.
Merge MIDI Input Filters...	Merges MIDI input port filters into one
Crash (Test)...	Crashes Forte. This is a test to see if it exits cleanly with your setup of MIDI and audio drivers.
Memory Information...	Displays available memory

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Display Diagnostics...	Displays audio and MIDI diagnostic counters. See Diagnostics Display 101.
Stress Rack...	Starts and stops the rack stress test. See Stress Test 100.
Experimental	Access to experimental (unsupported features)
Update or Enter User Registration Information...	Manage User Registration/License 19 information.

Help

About...		Displays version and user registration information
Help...	F1	Displays searchable help
View README.RTF		Displays the README.RTF file that accompanies a release with last-minutes notes

20 Keyboard Shortcuts

Keystroke	Action
Alt + 0	Show/hide the full-screen SceneView display. Esc will also close the SceneView display.
Ctrl + B	Show/hide all Output Buses.
Ctrl + C	Copies the selected Output Bus or Instrument Module. See Adding, Deleting, and Copying Instrument Modules and Adding, Deleting, and Copying Output Buses for more information.
Ctrl + E	Creates a new Scene with a default name based on the current date and time.
Ctrl + L	Solos the selected Instrument Module.
Ctrl + M	Mutes the selected Instrument Module.

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Keystroke	Action
Ctrl + O	Displays the 'Open rack' dialog box and enables a previously saved rack to be loaded.
Ctrl + P	Toggles audio engine On/Off.
Ctrl + T	Toggles transport Play On/Off.
Ctrl + R	Creates a new, empty rack. You will be prompted to save the current rack if changes have been made to it.
Ctrl + S	Saves the current rack. If the rack has not been saved before, you will be prompted to name the new rack.
Ctrl + U	Updates the current Scene.
Ctrl + W	Show/hide the console window of the selected module.
Ctrl + X or Alt + F4	Exits Forte.
Space	Advances to the next Scene.
Ctrl + Space	Moves to previous Scene.
Insert	Adds a new Instrument Module to the rack.
Alt + Insert	Adds a new insert effect to the current Module.
Ctrl + Insert	Adds a new Output Bus to the rack.
Ctrl + D	Deletes the selected Instrument Module or Output Bus.
Home	Scrolls the Control Module into view.
End	Scrolls to the bottom of the rack.
TAB or	Advances the Selection Caret to the next Instrument Module or Output Bus. When the Selection Caret reaches the

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Keystroke	Action
Down Arrow	last Module in the rack, it wraps around to the first.
F1	Opens Forte Help.
NUMPAD 1~9	Presses the MIDI Panic button.
1~0	Use Scene numbers 1 through 10.
Ctrl + 1~0	Use Scene numbers 11 through 20.
Shift + 1~0	Use Scene numbers 21 through 30.
Ctrl + Shift 1~0	Use Scene numbers 31 through 40.
Shift + TAB or Up Arrow	Moves the Selection Caret to the previous Instrument Module ot Output Bus. When the first Output Bus is reached, it wraps around to the last Module in the rack.

Note: These shortcut keys are reassignable using Edit Shortcuts in Program Settings 106.

21 Technology Acknowledgements

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